

JPRS-UHR-84-002

24 JANUARY 1984

USSR Report

HUMAN RESOURCES

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24 January 1984

USSR REPORT HUMAN RESOURCES

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LABOR

RELATIONSHIP BETWEEN WAGES, PRODUCTIVITY DETAILED

New Indicator in Construction

Moscow EKONOMICHESKAYA GAZETA in Russian No 40, Oct 83 p 16

[Article by V. Patrikeyev, manager of the Trust "Mosoblelektromontazh" [Moscow Oblast State Trust for Electrical Installation Work]: "The Basis of the Correct Relation Between Output and Earnings"]

[Text] I would like to continue in the pages of EKONOMICHESKAYA GAZETA the discussion which began with the article of R. Pelyachik entitled "Soundness of an Indicator," that is, the discussion of the advantages and shortcomings of the indicator of normative adjusted net output [NUChP] [the "adjustment" consists of including depreciation].

First, I would like to set forth the following considerations.

First, the indicator NUChP, which is called upon to eliminate the adverse influence of materials intensiveness, can display its advantages only where the wide-ranging materials intensiveness of work operations performed makes the indicator of the volume of construction and installation work (SMR) an ineffective unit with which to measure labor productivity. And conversely, use of the indicator NUChP, say for startup and adjustment organizations, which are distinguished by stable (and very low) materials intensiveness, does not, of course, promise any sort of appreciable advantages.

Second, we must get away from the familiar mental stereotype of applying a universal indicator to all cases which life offers. Now there will be two such indicators: the volume of construction and installation work--for production, for mutual settlement, for credit financing, for calculations of profit and prime cost, for determination of the volume of the marketable construction product, and the volume of the NUChP--for planning wages and output, and also for low-level operational and production planning.

It is obviously illegitimate to set these two indicators (the volume of SMR and the volume of the NUChP), which characterize different economic concepts, in opposition to one another, and it should only be a question of introducing the new indicator (the volume of the NUChP) as a supplement to the indicator that existed previously (the volume of the SMR) because it is a more effective measure of work processes.

The arguments presented below are based on almost 3 years of experience in a rather large electrical installation organization--the Trust "Mosoblelektromontazh" of Glavmosoblstroy [Moscow Oblast Main Construction Administration] and on the data of processing more than 40,000 estimates for an aggregate amount exceeding 160 million rubles, which was done in the process of refiguring the estimates for determination of the volume of the NUCHP, which the trust did with its own staff.

What Experience Has Shown

The advantages of this indicator as the best measure to be used in planning labor productivity and wages were confirmed. Whereas the estimated output, expressed in indicators of the volume of construction and installation work, quite often differs as much as tenfold or more from one type of work item to another, estimated output expressed in terms of the indicator NUCHP varies no more than 20-30 percent as a function of the type of work done. This substantially increases the reliability of the data on which reports are based and makes it possible to plan the growth rates of labor productivity and the wage fund more knowledgeably.

In addition, it becomes realistically possible to plan the output and earnings of the production brigade more accurately. When labor productivity is measured in terms of SMR, this possibility did not as a practical matter exist (especially in the context of electrical installation), since the results of the brigade's work were determined not so much by how the brigade worked as by what kind of work it did. For that reason the results of the work of different brigades or of one and the same brigade, but for different periods, often proved to be incomparable, which detracted greatly from the effectiveness of competition and made it more difficult to evaluate the performance of brigade collectives with respect to the most important indicator--labor productivity.

With the transition to the indicator NUCHP builders now have a powerful lever for improving wages and output, especially at the bottom level--the brigade, as well as for improving the organization of competition.

When the volume of SMR was used as an indicator to plan labor productivity and wages, builders were often forced to divert a portion of manpower from projects near completion to those which were not, but which were on the other hand more "profitable" from the standpoint of achieving the volume of SMR. When the indicator NUCHP was introduced, all types of operations are now of practically equal profitability, and the volume of work necessary to assure wages and output can be achieved in any stage of a project's construction.

Conditions are created thereby for concentration of manpower on projects near completion, which has been very vividly manifested in the results of the work of the Trust "Mosoblelektromontazh" since its transition to the indicator NUCHP. For instance, in 1982 the volume of unfinished construction dropped 16.6 percent. The volume of the marketable construction product per million rubles of the volume of the NUCHP has grown steadily:

<u>1980</u>	<u>1981</u>	<u>1982</u>
2.90	3.38	3.66

Consequently, use of the indicator NUChP to plan labor productivity and wages is creating good prerequisites for speeding up the activation of projects.

In the process of working with the indicator NUChP another very notable feature has also become evident: the volume of SMR per ruble of the volume of NUChP has been dropping year after year. In the Trust "Mosoblelektromontazh" this ratio is as follows:

<u>1980</u>	<u>1981</u>	<u>1982</u>
3.79	3.60	3.32

It thus turns out that the very same task (activation of projects) can be performed even at a lower cost.... Emergence of the trend toward lower project cost has also been noted in other construction and installation organizations.

Beginning in 1983 a new indicator has made its appearance in construction--the maximum level of physical inputs, nonfulfillment of which involves very appreciable material penalties. But the real struggle to lower the cost of construction work, which to a considerable degree is also determined by its materials intensiveness in value terms, cannot be waged until the desire to meet targets for the rise of labor productivity by performing the most expensive and materials-intensive operations disappears. Only when the indicator NUChP is used for planning wages and output do all the economic obstacles fall and are the conditions created both for reducing the estimated cost of projects to be activated as well as for reducing actual costs.

Standards Governing the Wage Fund

At the present time ministries and departments have begun to plan wages on the basis of standards, but it is hardly legitimate to take as a standard an indicator that is individual to each organization, one which has simply registered the actual proportion of wages as of a particular date. It is quite obvious that such a "standard" places in manifestly unequal conditions organizations operating at a high level and organizations whose wage fund contains at its base the results of many years of overexpenditures and mismanagement.

Does the indicator NUChP afford the possibility of working out sound calculated wage standards?

Over a period of 3 years the refiguring of tens of thousands of estimates which was done in the Trust "Mosoblelektromontazh" by different staff members in different construction administrations yielded exactly the same results: the share of the base wage in the estimate is 37 percent of the volume of the NUChP. Consequently, the conditions do exist for working out standards.

Moreover, if we take technologically identical groups of projects, then it turns out that for each of those groups there are inherent group wage coefficients depending on the volume of the NUChP. For example, for schools this coefficient is 35-36 percent, and for brick dwellings--38-39 percent.

This functional relationship opens up the possibility not only of calculating the wage fund from the volume of the NUChP, but also of the direct crediting of wages to workers as a function of the volume of NUChP performed, bypassing the very complicated system of quotas and unit prices for individual operations.

We should note, to be sure, that possibly the very rigid dependency between the base wage and the volume of NUChP, which was manifested in the analysis of estimates for electrical installation work, will not always be confirmed in other types of construction and installation work. However that may be, still the dependency that was manifested between the volume of the NUChP and the wage, which, incidentally, is quite normal, creates opportunities for a substantial improvement of the wage system, and this question deserves closer study by specialists.

The indicator NUChP, or, more precisely, the method of computing it, has certain shortcomings. To be specific, in my view the coefficient for determining profit and the proportion of costs for operation of machines and machinery, which are taken into account in the volume of the NUChP, should be revised. But these shortcomings are not fundamental in nature and should not cast a shadow on those appreciable advantages which use of the NUChP offers for planning work indicators.

The entire discussion above allows us to conclude that the first step toward application of the indicator NUChP in construction work provides encouraging results, and large-scale introduction of this indicator will be conducive toward a more correct relationship between the rise of labor productivity and wages.

Builder's Wage Outstrips Productivity

Moscow EKONOMICHESKAYA GAZETA in Russian No 42, Oct 83 p 18

[Article by V. Bezdelev, department head at the Irkutsk Institute of the National Economy, Irkutsk: "Wages and Productivity"]

[Text] In most construction organizations of Siberia the already large share of the wage fund in the volume of work is continuing to increase. Here are figures which give evidence of this.

Whereas in 1975 wage expenditures were 26.5 kopecks per ruble of construction and installation work in Glavkuzbasstroy [Main Construction Administration of the Kuznetsk Basin], in 1982 the figure was 29 kopecks. This is an increase of 9.4 percent. The increase turned out to be still larger in Glavvostokstroy [Main Construction Administration for Eastern Regions] (16 percent), in Glavkrasnoyarskstroy [Main Construction Administration for Krasnoyarsk Kray]

(21.7 percent), and in "Bratskgesstroy" [component created for construction of the Bratskaya GES] (22.6 percent).

If the volume of construction and installation work in 1982 had been performed with the proportion of wages at the level of 1975, then these associations would have required 47 million rubles less than wages. Over the entire 7 years of uninterrupted growth of the share of wages in the volume of construction and installation work, the total wage fund grew by hundreds and millions of rubles.

What does this indicate? That wages here are rising faster than labor productivity.

That is the situation. What are the causes of the phenomenon? After all, our main administrations have in that time received a large number of machines and pieces of machinery, they have continued to develop their capability--the basis for industrialization of construction. For instance, whereas in 1975 the share of fixed productive capital in contract work and in industrial activity was 870,000 rubles per million of construction and installation work, in 1982 the figure was already 1.37 million rubles, that is, 57 percent more. In addition, the "manufacturing" of industrial and housing projects is being transferred more and more to in-plant conditions, and erecting them means assembling the various parts manufactured off site at a high level of prefabrication.

The builders are turning over some of their functions to their associates, and they are making ever greater use of embodied labor. It would seem that under those conditions the wages of live labor, and that means, the relative share of wages, ought to be dropping. But so far this has not been observed.

Beginning this year resources to pay for labor are being released to construction organizations on the basis of standards applied to the volume of work performed. It would seem that control has been tightened. But this is not the case. The new procedure does not eliminate the motivation the builders had previously to do operations which are profitable, since volume is the determining factor in building up the wage fund.

Since the wage fund depends on the volume of work done, under present conditions, with one and the same standard, it is possible to achieve any desired proportion and also the necessary positive difference between the growth rates of labor productivity and the growth rates of wages. Yet, let us note, that faster growth for labor productivity is often fictitious.

Another defect in the organization of wages in construction is that today it is difficult to monitor its expenditure. The expenditure of financial resources, including wages, is monitored above all by USSR Gosbank and Stroybank and their local branches. What does their monitoring come down to? Let us look at the instructions.

The funding institutions of banks, the instructions say, must check the following in connection with acceptance of plans for labor: first, the

correspondence of labor indicators to the indicators established by superior organizations; second, the correctness of determination of the calculated indicators of the plan for labor (output, average wage, their growth rates); third, the existence of organizational and technical measures and the correspondence of the size of the saving on labor inputs anticipated from their introduction to the target assigned for the rise of labor productivity.

Has that kind of monitoring become an influential lever toward reducing the volume of unfinished construction and also for speeding up construction and making it cheaper? No, it has not become that kind of lever, since the very principle and very method whereby the banks release money for wages to builders are based on the "impersonal" volume of SMR in value terms, which is not linked to the allowed construction time for particular projects. This also makes it possible for builders to shift about, to "skim the cream" off numerous projects and to delay their delivery by years.

What are the wages spent for that have not been earned, but are received for performing "profitable" operations?

Mainly to pay for the high level of idle time, which actually exists, but has not been officially recorded, occurring because of poor organization of the construction process and lack of system in the use of human resources. It is also spent for an artificial boosting of wages, which managers decide on in order to keep workers from leaving the organization.

Payments for the "impersonal" volume of construction and installation work also serve as one of the principal economic causes of the growth of unfinished construction and the rise in the cost of construction.

At one of the regular meetings of the Politburo of the CPSU Central Committee the question was taken up of strengthening the effort to guarantee that labor productivity rises faster than wages.

How is this important task in economic policy to be performed in construction?

In our view, the wage fund must be determined by the estimate of the costs of construction of the project, which is compiled so as to take into account all the advances of present-day construction engineering and technology and progressive know-how. It must also become a reliable instrument for monitoring expenditure of wage funds.

In this connection the size of the wage fund for a project must be determined exclusively by the sum total of labor inputs in all technological stages of construction on the basis of scientifically sound and legislative standards. The size of the wage fund must be entirely "purged" of the influence of the value of materials, fabrications and machinery used in operations on the given project.

Under those conditions the contractor will have no basis for dividing SMR into profitable and unprofitable work items. Each type of work item will be paid for according to the planned inputs of labor, and not as a function of

the impersonal volume of SMR. Builders will have equal motivation to perform on schedule those work items which are part of the infrastructure as well as all those in subsequent technological stages, including finishing work, and in delivering projects for operation on schedule. This will serve as the basis for an even pace in the construction process. In releasing funds for wages, the banks must require that construction organizations operating as contractors present clear figures that the wage fund has been extended in accordance with the planned technological sequence and with the planned deadlines for performance of particular work items.

By making payment in the form of wages only for those labor inputs and operations called for by the estimate and done within the planned periods of time and in the stages planned, as called for by network schedules, the banks will be able to exert a stronger influence on builders in that the latter will have to earn and receive their wages on the basis of their work, which is in fact the way it is supposed to be.

Gosplan Official Answers Readers

Moscow IZVESTIYA in Russian 5 Oct 83 p 2

[Interview with V. Moskalenko, deputy chief of the labor department of USSR Gosplan, by IZVESTIYA editor: "Wages According to Work Done"; date and place not specified]

[Text] The mail received by the editors contained quite a few letters whose authors put questions related to labor productivity and remuneration of labor. From the multitude of these questions we have chosen the most typical ones that cover the problem in its various aspects.

[Question] Valentin Kirillovich, readers ask: Why is the discussion of the need for labor productivity to rise faster than remuneration of labor being conducted so keenly precisely at this time?

[Answer] That requirement is advanced by life itself. Only under that condition will economic development be balanced, which is what makes it possible to raise the standard of living of the Soviet people, to expand the scale and increase the efficiency of socialist production, and to strengthen the country's defense capability. Attention was paid to the need for labor productivity to rise faster than remuneration of labor in the decisions of the 26th party congress.

Guaranteeing economically sound relations between the two indicators is one of the important problems in management of a socialist economy and above all in planning. Yet in recent years an unfavorable tendency has been obviously manifested. This is that many ministries, associations and enterprises are in their plans violating the proportions between the rise of labor productivity and that of wages. Cases have become more frequent in which wages rise at faster rates than labor productivity or even when the latter is dropping. The end result for the 10th Five-Year Plan, for example, showed a 0.69-percent growth of the average wage for every percentage point of growth of labor

productivity, while the 5-year plan called for 0.44, and in the first 2 years of the current 5-year plan, the figure has been 0.35, instead of 0.63.

Where does this lead in practice? Suppose that the collective of some enterprise has boosted its output 5 percent for the year, but its wage fund has grown 6 percent. That means that more funds were paid out to workers in wages than the additional goods produced. Now let us suppose that there are thousands of such enterprises, not just one. The result is unsatisfied demand, a rise of prices on the market. I will not even mention the influence of that kind of situation on the possibility for accumulation for expanded socialist reproduction, augmentation of social consumption funds, and the state of the circulation of money.

As noted by Comrade Yu. V. Andropov, the impermissibility of violating the objective economic requirement that labor productivity rise faster has taken a quite definite shape. Unless it is very closely related to this decisive factor, the rise of wages, which at first creates a superficial pleasant impression, ultimately and inevitably has an adverse effect on all economic life. To be specific, it gives rise to demands which cannot be altogether satisfied at the given level of production and stands in the way of eliminating the shortage.

[Question] What in your opinion is meant by an economically sound relationship between the rise of labor productivity and the rise of wages?

[Answer] I think that that is the relationship which follows directly from the basic national economic proportions envisaged in the state plan. Assuming, of course, that the plan itself is balanced as it should be and that its individual indicators are sufficiently linked to one another. I am thinking above all of the proportion between the aggregate personal money income and capabilities for supplying its counterpart in terms of goods. Of course, when these relationships are being determined for individual branches, associations and enterprises, specific factors in the growth of production and labor productivity and the strenuousness of planning targets pertaining to those indicators must also be taken into account. As a result, for example, the rise of remuneration per percentage point of the growth of labor productivity, other things being equal, should be relatively higher where potential is being put to better use and where planning targets are more strenuous.

For that reason, it seems to me, we cannot speak about any sort of constant relationship, established once and for all, between the two indicators even with respect to individual branches, much less enterprises. But faster growth for labor productivity than for remuneration of labor is an objective economic requirement for all, an invariable condition if our economy is to develop according to plan.

[Question] What are the causes of the violations of planning proportions between labor productivity and wages?

[Answer] It should first be borne in mind that the proportions we are referring to are special and, I would say, synthetic in nature. As a rule they

are affected by any departures from the normal pace in the operation of an association or enterprise, by nonfulfillment of planning targets for any indicator. And this applies above all, of course, to labor productivity.

In many cases this nonfulfillment occurs at the same time that planned wage funds are exceeded. The socialist principle of remuneration according to work is violated as a consequence. The relationship between the two indicators is especially worsened by shortcomings that have persisted at many enterprises in the organization of production and work, by breaches of work discipline resulting in idle time of equipment and losses of worktime. To make up for them certain enterprises use overtime and work on days off, which are paid for at a higher rate.

It is well known that in the 10th Five-Year Plan targets for labor productivity were not fulfilled. Many ministries, associations and enterprises in industry, construction, and rail transportation have also failed to cope with those targets in the half of the current 5-year period which has already passed. This situation is altogether out of line with the role of the labor productivity indicator in carrying out the course toward efficiency which has been outlined by the party.

[Question] How is the relationship between the two indicators influenced by the situation with work norm setting? Many authors of letters are disturbed by the lag in this effort.

[Answer] Most directly. Labor productivity, work norm setting and remuneration are categories inseparably related to one another. The serious shortcomings that have persisted in the organization and quality of norm setting automatically detract from the relationship between labor productivity and remuneration.

Just take the steady drop in the relative share of the output quotas of piece-rate workers which have been revised. Whereas in 1976 this was 19 percent in industry, in 1980 it was 16.9 percent, and in 1982 only 16.1 percent.

The low quality of work norm setting is also indicated by the fact that in many enterprises and a number of ministries overfulfillment of quotas in certain years is increasing faster than labor productivity. This confirms that the quotas in effect at many enterprises have lost their mobilizing role as a most important instrument for carrying out the socialist principle of remuneration according to work and have become a means of regulating the level of wages. In many cases, moreover, to the detriment of planned proportions between wages and labor productivity.

[Question] What specifically is being done today to improve the relationship between the rise of labor productivity and the growth of wages?

[Answer] First of all, steps are being taken to raise the level of economic soundness of proportions envisaged between the two indicators both for the national economy as a whole as well as for its individual branches, associations and enterprises.

At the same time the planned "rank" of the indicator we are talking about is being raised. It is being promoted from a calculated or reference indicator to an assigned indicator. Beginning next year industrial ministries and their associations and enterprises will be assigned on a planned basis standard relations between the rise of labor productivity and the growth of wages, including bonuses and other awards paid from the material incentive fund. They will be differentiated so as to take into account the specific nature of sectors and branches, the intended reduction of labor input relative to output, the strenuousness of targets for output and labor productivity, the state of the organization of work and work norm setting, and other factors.

A procedure for compulsory reimbursement of overexpenditures of the wage fund committed by associations and enterprises is being introduced. Should they lack resources of their own, the corresponding reserve funds of ministries may be used for this purpose.

Measures being drafted to further improve the bonus system will help to improve relationships between the rise of labor productivity and the growth of wages. There are serious shortcomings in it at present. And the main one is that this system itself has become extremely cumbersome, complicated and often not very comprehensible to the worker. As a result the effect which bonuses have on the results of an enterprise's performance has fallen off noticeably.

Requirements are being raised considerably with respect to adjustment of the plans approved. In recent years this has become unjustifiably widespread. The relationship between labor productivity and wages is especially adversely affected by adjustment of production plans at the end of the year, when it is practically impossible to make corresponding changes in plans concerning labor.

[Question] Will the measures you speak of restrict the growth of wages for certain worker categories?

[Answer] By no means. After all, concern is being caused today not by the rise of wages as such, nor by that increase for certain categories of workers and employees. Guaranteeing maximum growth of wages is one of the most important tasks in drafting and carrying out plans. But that growth must be realistic, i.e., must be backed up with a corresponding increase in the production of physical goods, including the output per worker. Attention was called to the need for tighter monitoring of the measure of labor and work incentives in all economic entities during consideration in the Politburo of the CPSU Central Committee of the question of strengthening the effort to guarantee that labor productivity increases faster than wages. Meeting that requirement is today a most important task.

7045

CSO: 1828/27

LABOR

TIGHTENING OF LABOR SAFETY MEASURES IN AGRICULTURE URGED

Moscow SEL'SKAYA ZHIZN' in Russian 10 Sep 83 p 1

[Text] We are witnesses of and active participants in immense changes taking place in our agriculture: the main sphere of the agroindustrial complex is being placed on an industrial foundation. Diverse up-to-date machines, complicated mechanical devices, the most up-to-date equipment, automation and computers are being put at the disposition of those who till the land, animal husbandrymen, land reclamation workers, and builders.

The very character of peasant labor has changed essentially under the impact of scientific-technical progress. It is becoming more meaningful and interesting. At the same time machine technology and intensive work methods impose higher requirements on each of us, on our occupational knowledge and skills. There are no trifles in dealing with technology. The slightest oversights or blunders, awkward movements, the notorious reliance on "perhaps" can have dangerous consequences--breakdowns, fires, property damage and accidents.

The party and state are paying a great deal of attention to solving problems related to improving the conditions and health and safety of farm labor. In recent years thousands of new improved-type workshops, service and maintenance stations, garages and mechanized storehouses for chemicals have been put into service on kolkhozes and sovkhozes and in interfarm associations. Steps are being taken toward more complete supply of special work clothes, special footwear and other equipment for personal protection of workers in cropping and animal husbandry. The network of rural preventive, sanatorium and medical institutions and rest homes has been growing.

The specialized service for workplace health and safety has been constantly bolstered in the sector. Its ranks now include more than 32,000 qualified specialists. Performance of everyday farming operations and adherence to the rules governing operation of machines and tractors and workplace sanitation standards are being supervised more closely. All of these actions are subordinated to a single goal--eliminating the basic causes of injuries, occupational diseases and highway accidents.

Success is being achieved particularly where workplace health and safety is always at the center of attention of party, Soviet, trade union and agricultural authorities, managers and specialists of kolkhozes and sovkhozes,

enterprises and institutions, where the community is actively involved in solving these problems. For instance, much can be learned from the practice in a number of rayons of Donetsk Oblast, especially in Starobeshenskiy and Marinskiy Rayons. It has become a good tradition there to hold periodic public reviews and contests for improvement of working and living conditions in rural areas. This enhances the role and prestige of work collectives and trade union and worker assemblies in solving the real problems related to strengthening discipline and setting things to rights in all sections of production. Among the planned measures the leading place is given to improving the skill class of machine operators, drivers, milking machine operators and technical personnel, as well as to the training and retraining of personnel in the most common occupations and to teaching them safe work procedures.

However, as the letters received by the editors indicate, workplace health and safety is still not always treated with proper responsibility. Some managers and specialists of kolkhozes, sovkhoses and interfarm enterprises regard this exceedingly important matter as almost secondary and incidental. Quite often one has occasion to observe a scene like this. An accident has occurred, and ... work has become feverish. Safety drills are conducted with urgency, orders are written, and public reprimands are issued. But a little time passes, passions subside, and a lull ensues again. There is more formalism in this approach than authentic seriousness. Workplace safety cannot be forgotten even for an hour, even for a minute.

Checks have shown that job injuries and accidents occur in most cases because of flagrant violation of work discipline and technological discipline, of rules and standards concerning workplace health and safety, because of laxity, lack of supervision, and lax enforcement. Last year cases of that kind occurred on a number of farms in Kazakhstan, Turkmenia, Chuvash ASSR, Gorkiy and certain other oblasts.

The percentage of highway accidents is especially high in rural areas. Nor is this any accident. In many places driver training work has become slack. Proper attention is not being paid to prevention of violations of various kinds. The machine operator or driver quite often sits at the wheel of a tractor or truck on his own and goes where he likes: to the store, to visit relatives, to the market, to a neighboring settlement on an errand or just to be going. To make matters worse, at times he is not sober. And no one stops him, no one gives him proper punishment, no one makes him pay for the fuel he has consumed unnecessarily or for the property damage resulting from an accident. Such cases must be given a scrupulous evaluation in the party spirit, and an implacable public opinion must be created around those who commit breaches of discipline.

Rural trade unions, councils of rayon agroindustrial associations, people's controllers, and law enforcement agencies are called upon to make a weighty contribution to solving problems related to workplace health and safety. Their role in this most important matter must increase every day, especially now when field work and hauling have reached their highest peak in the country.

We should note that creation of proper and safe working conditions in agriculture are a many-sided and compound task, one which includes organizational, technological, sanitary-improvement and socioeconomic measures. The principal ones among them are an all-out strengthening of work discipline, widespread use of the collective contract, improvement of production know-how, an astute indoctrination effort, and an everyday concern about people's needs and requirements.

A maximum number of machines and pieces of machinery are in use in rural areas during the harvest. It is the duty of all work collectives to prevent breakdowns, accidents and road collisions.

7045

CSO: 1828/36

LABOR

BONUSES FOR RICE, BUCKWHEAT, SUNFLOWER CROP CULTIVATION DESCRIBED

Moscow SEL'SKAYA ZHIZN' in Russian 25 Oct 83 p 4

[Article by A. Nikolayenko, senior economist of the Main Administration for Labor and Social Problems of USSR Ministry of Agriculture, answering the question of reader A. Ivanov of Krasnodar Kray, in a feature furnished by the Legal Administration of USSR Ministry of Agriculture: "Payment for Raising Rice, Buckwheat, Millet and Sunflowers"]

[Text] "What material incentives have been established for workers engaged in raising rice, buckwheat, millet and sunflowers?" asks A. Ivanov of Krasnodar Kray.

In order to increase the material motivation of workers in increasing production and procurements of rice, buckwheat, millet and sunflowers sovkhoz directors have been granted the following permission:

in order to achieve on the farm (in the branch, brigade or link) higher yields of rice, buckwheat and millet than the average yield of these crops per hectare over the last 4-5 years, to pay sovkhoz workers engaged in operations to raise these crops a supplement of between 25 and 50 percent of the grain (rice, buckwheat and millet) harvested over and above the average annual gross harvest in those years.

On farms (in branches, brigades and links) which over the last 4-5 years have had a yield of rough rice amounting to more than 40 quintals per hectare the additional payment to workers employed in raising rice shall be between 25 and 50 percent of the grain rice harvested over and above 40 quintals per hectare.

Workers raising rice who receive additional payment for exceeding a rice yield of 40 quintals per hectare may not at the same time be paid an incentive for achieving higher rice yields than the average yield per hectare over the last 4-5 years.

During the first 3 years of rice cultivation on new rice-planting farms sovkhoz workers shall be given a supplemental payment of up to 10 percent of the actual gross harvest of rough rice within the limits of the plan of the branch, brigade or link and in the proportion of 25-50 percent of the above-plan gross yield.

The payment in kind of rice or millet (separately for each crop) may not exceed 1 ton per worker, and the remainder of the supplemental payment shall be made in money on the basis of the purchase price of the rough rice and millet. At the request of sovkhos workers the additional payment for raising rice, buckwheat and millet may be made in money on the basis of the value of the grain (rice, buckwheat and millet) to which they are entitled, at purchase prices.

Links, brigades and branches of sovkhoses directly employed in raising and harvesting sunflowers shall be credited an additional payment of 70 kopecks for every quintal of sunflower seed delivered to the state; 70 kopecks for every quintal of sunflower seed of regionalized varieties from the second cycle of reproduction, and 1 ruble for every quintal of the seed from the first cycle of reproduction.

The supplemental payment credited to workers for raising rice, buckwheat, millet and sunflowers shall be distributed in proportion to the base wage they receive for raising the respective crop and shall be paid over and above the amount credited to them under the existing system of remuneration.

But the proportion of the supplemental payment (in kind and money) to workers for output of the respective crops--rice, buckwheat, millet and sunflowers--may not exceed 60 percent of the annual earnings received in the brigade for the volume of farm work performed on each of these crops.

In administration of these material incentives it should be borne in mind that the supplemental payment to sovkhos workers employed in raising rice, buckwheat and millet have been envisaged not to increase the gross harvest of these crops, which can be achieved by increasing the area planted to them, but to achieve higher yields than the average yield per hectare of these crops over the previous 4-5 years. Accordingly, the additional payment may not be credited when there is no increase in the yield.

7045

CSO: 1828/36

EDUCATION

RUTKEVICH UNDERSCORES NEED TO REVIEW CURRENT EDUCATION POLICIES

Rutkevich on Education Policies

Moscow SOVETSKAYA ROSSIYA in Russian 21 Sep 83 p 3

[Article by M. Rutkevich, corresponding member of the USSR Academy of Sciences: "Labor in the School-Leaving Certificate"; passage rendered in all capital letters printed in boldface in source]

[Text] The discussion about restructuring the school initiated on the pages of our newspaper has resulted in a large amount of mail from readers. There is no lack of specific proposals that the specialists are also putting forward. Most of our authors write about ways to improve the labor indoctrination of young people and training the rising generation for productive labor. But a number of questions are raised that, it seems to us, require close study and extensive discussion. Indoctrination in the requirements of labor regardless of its professional content? Or mandatory training for young people to carry out specific kinds of labor, that is, combining general secondary education with occupational training?

USSR Council of Ministers Academy of the National Economy department chief, corresponding member of the USSR Academy of Sciences M.N. Rutkevich, whose article we print as a discussion piece, expresses his viewpoint on this question.

Realization of universal, complete secondary education, which at the start of the century was at almost the lowest level in Europe in terms of population literacy, is one of the most important and worldwide-historic achievements of socialism in regard to its significance. But life does not stand still.

Today it is already clear that the worker of the future must combine within himself a knowledge of the basics of science, obtained in the general education school, and a knowledge of special technological processes in a given sphere of production, along with practical skills in controlling modern implements of labor. This kind of knowledge about microelectronics, nuclear power engineering, biotechnology and so forth cannot be acquired without special training in training establishments oriented on vocational training.

This trend also affects all other fields of production, and also the nonproduction sphere, which sets for each worker vocational and skill requirements that are just as stringent. It follows from this that in the immediate future the realization of general secondary education should be combined with the realization of general vocational training, that is, training young men and women for a specific kind of work. Here it should be noted that by vocational training we mean not only gaining knowledge in a vocational and technical school but also acquiring a profession in other permanent training establishments.

In order to give this general conclusion more specific content it is necessary to turn at least briefly to the history of the development of the general education school in the USSR during the postwar years.

As is known, the contradiction between the demands of society and of the school began to be felt as long ago as the late Fifties.

Before that time the 10-grade school trained its graduates for enrollment in the VUZ's, and in general it coped successfully with the task it had been set. Up to a certain time this orientation was justified. Both before and after the war the country continued to experience a shortage of specialists with higher qualifications: engineers, physicians, teachers, scientific workers and so forth. These totaled 903,000 in 1940 and rose to 3,545,000 by 1960, that is, almost quadrupled, while in 1982 the figure was 13,000,000 (an increase by a factor of 1.4!). [as published] Now, one person in ten employed in the national economy has a higher education.

Obviously, today it should be a matter not so much of further increases in the numbers of specialists as improvements in the quality of their training and their more rational utilization.

But let us return to the Fifties. Even then the VUZ's were unable to accept all those graduating from school. Nevertheless, the school continued to orient its students, as before, on receiving a higher education.

The school reform of 1958 was the result of this contradiction, and as was suggested at the time, it was designed to resolve it. The reader will remember that the reform oriented the school on the preparation of young people for work in the sphere of material production, on the simultaneous acquisition of a secondary education and an occupation. Some positive shifts along this path were achieved and the links between the school and the enterprises were strengthened. Today, however, it is quite obvious that on the whole the 1958 reform was set goals that it has not attained. Why? We note two main factors. First, it was proposed that the majority of those receiving an incomplete secondary education would be dragged on into the national economy. But in the late Fifties the network of vocational and technical schools was inadequately developed to take upon itself vocational training for all those graduating from 8-grade schools. Most of these 15-year-olds were sent directly into production. But since in their 8 years at school they had acquired no kind of occupation, many sectors of the economy were unable to accept them at all, while in other sectors they could offer only short-term forms for acquiring skills, namely courses, individual-brigade apprenticeship and so forth. Not surprisingly, most parents and students preferred ninth grade and a secondary education.

Second, it was proposed that in the senior grades the acquisition of a general secondary education would be combined with the acquisition of some kind of mass occupation. Since each school could offer it students only a limited choice of specialties with the aid of patronage enterprises (fitter, sewing machine operator and so forth), most 10-grade school graduates did not even start work in the occupation for which they had trained at school, the more so since actual mastery of the occupation was rarely higher than the level of rating 1 or 2.

In this sense the idea of combining general secondary education with vocational training was compromised. Moreover, this kind of training did not justify the state assets spent on it, entailed a decline in the level of knowledge, failed to resolve the question of training the work replacements, and caused dissatisfaction among both young people and parents. This is why the virtual abandonment of the 1958 school reform in the mid-Sixties was greeted with satisfaction. Henceforth the school was given the task of teaching the basics of science, labor indoctrination and preparation for acquiring a profession. But already by the Seventies it was seen that the school was also failing to cope with this combination of tasks. Whereas teaching the basics of science remained as before at the center of attention, labor indoctrination in an overwhelming majority of schools was neglected and its role downgraded. As for choice of occupation and training young people to master it, we must deal with this in a little more detail.

Let us consider how the actual distribution of graduates from the incomplete and complete secondary school has altered over the past 15 years (1965-1980). The answer to this question can be seen in the tables below.

Table 1. Distribution of Schoolchildren after 8th Grade (as percentages)

Year	total completing 8th grade	going to work	Enrolled for training in daytime departments			
			Voc. and tech. school regular	"secondary"	9th grade	tekhnikum
1965	100	42.5	12.3	-	40	5.2
1975	100	2.3	21.4	10.2	60.9	5.2
1980	100	0.5	13.8	19.3	60.2	6.2

Table 2. Distribution of 10-Grade School Graduates (as percentages)

Year	total graduating from school (10-11 grades)	going to work	Enrolled for training in daytime departments		
			Technical Schools	Tekhnikums	VUZ's
1965	100	16.2	-	42.4	41.4
1975	100	55.3	12.9	16.0	15.8
1980	100	41.2	26.9	15.6	16.3

Thus, the problem of choice of occupation and the opportunity to acquire vocational training is today, as before, resolved either at age 15 or age 17-18, but in quite a different way than 15 years ago. Graduates from 8-grade schools are now divided in fact into two groups: 1) 40 percent of them leave school in order to acquire an occupation through a vocational and technical school or a tekhnikum; 2) 60 percent postpone their choice of occupation until they have completed 10th grade.

Graduates from the complete secondary education school are also divided into two groups: 1) those who enroll at a technical school, tekhnikum or VUZ with a view to acquiring a profession (this is about 60 percent of all graduates); 2) those who are employed without additional training at a permanent training establishment offering vocational training.

Thus, about one in four of young people embarking on life (and this amounts to about 1 million throughout the country) do not today receive the vocational training that corresponds to the spirit of the times. Moreover, it must be taken into account that career counseling work in the senior grades of the secondary school is poorly organized and as before half of those graduating from the 10-grade schools are oriented on the VUZ's, while only one-sixth of them actually enroll at a VUZ. Reorientation of one's life plans at age 17 or 18 is a far from painless process. Most school graduates start work not only without preliminary vocational training but also without the psychological "attitude" to engage in the business that they are involved in. The result of this is frequently indifference to labor and the collective.

Studies by sociologists confirm the conclusions proclaimed from the dais of the CPSU Central Committee June (1983) Plenum: the existing educational system is lagging behind the requirements of life. Under conditions of a worsening (in almost all regions of the country) demographic situation and the decrease in the inflow of young people into the national economy, and given the long-term party course toward the intensification of social production and the introduction of the achievements of scientific and technical progress in the national economy, it is essential to make substantial amendments to the educational system and its management. In our view, the purpose of restructuring the educational system may be formulated as follows: UNDER PRESENT CONDITIONS, ALL MEMBERS OF THE RISING GENERATION STARTING WORK SHOULD HAVE NOT ONLY A GENERAL SECONDARY EDUCATION BUT ALSO BROAD-BASED VOCATIONAL TRAINING OBTAINED WITHIN THE WALLS OF A PERMANENT TRAINING ESTABLISHMENT. This is the kind of education that would satisfy the requirements of scientific and technical and social progress in a mature socialist society.

What, then, must be done to complete this task? In answer to this question it is appropriate to refer to the experience of some of the fraternal socialist countries of Europe that have already gained experience in restructuring the system of people's education. Thus, for example, in the GDR children start school at age 6 and all of them continues their studies for 10 years. The subsequent distribution of school graduates takes into account both the bends that young people have shown and social requirements for personnel of various kinds. About 30 percent of the total are selected for further training for periods up to 2 years, and they receive a certificate that gives them the

right to enroll for advanced education. The other 70 percent are trained in the mass occupations within the system of vocational and technical education, where the period of training is also 2 years.

Taking into account the conditions existing in the USSR, in our opinion the main "watershed" between incomplete secondary and complete secondary school should be retained unchanged, that is, completion of the 8th grade should be regarded as the first general stage for everyone in acquiring an education. However, in our view, substantial changes should be introduced in the existing system.

What kind of changes? I think that, first, selection for the 9th grade should comprise not the 55-60 percent as at present but 25-30 percent. This corresponds roughly to the proportions now existing between workers in predominantly physical labor and those in predominantly intellectual labor. For the purpose of achieving more goal-oriented training for admission to the VUZ's the senior classes in secondary school could offer three main specializations: a) physical-technical, with the emphasis on mathematics and physics and their application in technology; b) chemical-biological, with the emphasis on the application of these sciences in agriculture, forestry and medicine; c) the social sciences and humanities.

While retaining the main general outlines of the program, each of these three types of secondary school will also offer goal-oriented training for admission to a higher and secondary specialized school with a specific profile, and this would require increasing the period of study in senior grades from 2 to 3 years. This longer period should also insure that a minimum of one foreign language is mastered in fact (including speaking), a decisive improvement in physics education, and, finally, the practical ability to handle computer equipment, which is being used increasingly extensively in all fields of science and production, including the social sciences.

The system of vocational and technical education should be further developed at an accelerated pace. In the immediate future it is essential to complete the conversion of all vocational and technical schools into secondary schools. This task is very far from simple and of course it can be solved sooner in some parts of the country than in others. But in the long term this conversion is absolutely essential. If ALL young people receive their school-leaving certificate it will facilitate the possibility of reorientation that is unavoidable for some young men and women.

Of course, the proposals presented above (which we do not consider the only possible ones) probably require that all ministries and administrations dealing with general and vocational education and training for young people concentrate their efforts. It is possible that this will lead to a need to focus on questions of training and education within the framework of a single administration and thus overcome the inconsistency of actions that exists today.

One striking example of this inconsistency is the ineradicable tendency of the school to retain the best students for studies in the 9th grade while "dispatching" the "disrupters of calm" to the vocational and technical schools and threatening the same for those with "C" grades.

Such, in brief, are the proposals that if implemented can in our view bring the educational system into line with the requirements of national economic and cultural development at the present stage.

Professor Aitov Responds

Moscow SOVETSKAYA ROSSIYA in Russian 30 Oct 83 p 3

[Article by N. Aitov, professor, doctor of philosophical sciences: "The Main Assessment Should Be for Labor"]

[Text] Ufa--Among the published pieces dealing with the restructuring of the school, the article by corresponding member of the USSR Academy of Sciences M. Rutkevich (SOVETSKAYA ROSSIYA 21 Sep 83) impressed me the most. It seems to me that the author suggested the most rational method of strengthening labor indoctrination and vocational training in the secondary school: by reducing the proportion of those completing eight grades going into the 9th grade and increasing enrollment in the secondary city vocational and technical schools.

It seems to me that the main content of the upcoming reform in secondary education should be a strengthening of labor indoctrination. There can be many ways in principle to solve this problem. In the late Fifties an attempt was made to solve this problem by introducing vocational training in the secondary schools. We know that this attempt was not entirely successful. But there was a unique kind of "reverse" reaction--the school began to be oriented on enrolling its students in a VUZ.

Some 15 years ago the author of these lines expressed in the press the thought that in its existing form secondary education is not sufficiently effective from the economic standpoint: all the indicators for the production activity of workers with an education of just one more grade rise substantially less than for those with a work seniority of 1 year. At that time the reaction to the article was that it was aimed in general against general secondary education.

In fact the point was that economically the form of the general education school was not always justified and that secondary specialized education was much better, and it was suggested that most senior classes in the secondary school be converted into training establishments of the tekhnikum type. The need for this has been confirmed by life: we got training establishments of the secondary city vocational and technical school type. And they immediately generated a major economic effect! According to data from a study by V.N. Turchenko, workers graduating from the secondary city vocational and technical schools fulfill the work norms on average 5-6 percent better (and, of course, their work seniority is very small) than those graduating from the regular city vocational and technical schools. And the figure is 15 percent better than for those trained using the method of brigade or individual training.

But the crux of the matter lies not only and not so much in the economic advantage as in the moral effect. At several of the enterprises in Ufa we

asked the foremen to assess workers according to a whole range of indicators, including the degree of conscientiousness in relation to their duties. It turned out that this assessment was much higher for those who came originally from the countryside. The explanation of this is simple: from an early age country children work both on the private subsidiary plots and on the kolkhozes, while as a rule, the mothers of city children do not even have them do housework.

This long--10-year--break from productive labor does not instill in city children an adequate love of work. Of course, it can be said that there are many fine interschool production-training combines, and in individual schools even small factories are successfully operating. But practice shows that the effectiveness of training in the interschool combines is also not great: the categories mastered are the low ones, the choice of occupations is narrow, and no more than 10 percent of graduates then go on to work in the specialty learned there. In my opinion, the situation that prevailed in production training at school in the late Fifties has now been shifted to an interschool basis. Individual school factories enjoy success because things there are usually run by real enthusiasts who are prepared to carry on their own shoulders all kinds of possible and impossible organizational problems. It is naive to think that we shall be able to provide a hero-director for every school in the country.

Mass specialized, well-equipped secondary city vocational and technical schools operating on the base of major industrial enterprises are where, in my view, it is possible and essential to offer training for occupations and instill a love of labor! It can be said that this is expensive. Consider the following, however: the present "cheapness" of school training has swung so far that in 1980 some 41.2 percent of secondary school graduates (according to M. Rutkevich's figures) go untrained into production. Each year millions of people leave school knowing quite a lot but... capable of little. And we have seen that the graduates of the secondary city vocational and technical schools work 15 percent more productively than self-taught people. I think that improving labor productivity through technical progress will turn out to be considerably more expensive than constructing new secondary city vocational and technical schools.

There is another aspect of the matter. Numerous sociological studies conducted in various parts of the country show that as before about 70-80 percent of secondary school graduates dream of enrolling at a VUZ. And, as is known, only one-fifth of them actually do enroll while the rest are forced into production--"forced" is the word--and they go thinking that they have suffered a failure in life or even a catastrophe. The sorry arithmetic is hardly surprising: almost two-thirds of the "current" inflow into the plants and factories are made up of young people with a work seniority of up to 2 years. And it is no secret that the economic harm in the country from the "rolling stones" amounts to billions of rubles, and the "contribution" made to these people by recent school graduates is far from small--about 70 percent of total losses. Meanwhile, the assignment of 8-grade graduates predominately to the secondary city vocational and technical schools would lead to a situation in which the vocational orientation of young people would be much more realistic.

Well then, what proportion of 8th graders should go to the city vocational and technical schools? M. Rutkevich thinks it should be about 70 percent. It seems to me that this is a somewhat inflated figure. It should obviously be set up so that up to 40 percent of 8th graders enroll in the secondary school: the VUZ's will then have an opportunity to make a selection. Then those who fail in the competition can work in places where neither VUZ nor tekhnikum training, nor even training at a secondary city vocational and technical school, is required. In principle, in each city the assignment of 8-grade graduates should be done according to the city's actual requirements for personnel of varying skills (taking into account migration among young people both into and out of the city in connection with the attraction of various specialties). The method for planning this kind of distribution, with the formulas for the calculations, has already been created.

But, it will be asked, who will implement this kind of planning if the Ministry of Education and the State Committee for Vocational and Technical Education and the Ministry of Higher and Secondary Specialized Education, which now often act as "rivals" in the struggle to recruit 8th graders, are responsible for general secondary education? The city vocational and technical schools, where there is a permanent shortage and where the most "troublesome" and "difficult" contingents from the schools are now sent, find themselves in a most disadvantageous position in this rivalry.

I agree with M.N. Rutkevich: the thought suggests itself that a single USSR Ministry of Secondary Education should be set up which would handle both the general education schools and the vocational and technical schools and the tekhnikums. First, it would be able to draw up plans on an impartial basis for the development of secondary education, proceeding from actual labor force requirements. Second, since its city and rayon sections (in contrast to the present rayon and city departments of people's education) would be responsible not only for the schools but also the tekhnikums, the latter would not find themselves in the position of "pariahs" picking up the crumbs from the table of the secondary school. Third, it would be possible to control the realization of general secondary education. For at present, a person who is dismissed from a tekhnikum is the concern neither of the rayon nor the city sections of people's education: this person is already an "outsider" as far as the Ministry of Education is concerned. And fourth, combining management into one set of hands would make it possible to exercise control in such a way that the content of education was of a general nature in both the school and the tekhnikum. Up to now we have not achieved this.

Of course, this kind of distribution of 8-grade graduates can be accomplished virtually only in the city. In the overwhelming majority of rural populated points (apart from individual major rayon centers) it is impossible to have a secondary school, a tekhnikum and a vocational and technical school all at the same time. Here, obviously, the problem of vocational training and labor indoctrination for young people can be solved by converting the secondary schools to rural secondary vocational and technical schools. But here, it seems to me, it is essential to insure the kind of quality in general educational training that would provide young people in the countryside with the opportunity to enroll at the VUZ's. At the same time it is necessary to try to organize

vocational training in agricultural specialties in the secondary school so that it is just as good as training in the rural vocational and technical school. Of course, very many of those who master the occupation of vehicle operator at school move to the city. But even this is not labor done in vain! For each year several million people from the cities are sent to the kolkhozes and sovkhozes to do unskilled work. The former graduates of the rural schools can also be used here as vehicle operators.

I repeat that in my opinion the main thing in the upcoming reform in secondary education is obviously labor indoctrination. But its implementation demands from us a careful consideration of the system by which secondary education is organized and managed.

9642

CSO: 1828/25

EDUCATION

SELECTED ARTICLES ON VOCATIONAL TRAINING

Technical School System Described

Riga SOVETSKAYA MOLODEZH' in Russian 9 Jul 83 p 3

[Article prepared by USSR State Committee for Vocational and Technical Education to answer readers' questions: "Conditions for Study in Secondary Vocational and Technical Schools and Technical Colleges"]

[Text] Secondary vocational and technical schools train skilled workers who have completed the 8-year general public school. The period of study is 3 years.

Technical colleges train skilled workers from among graduates of general secondary public schools. The course of study lasts from 8 months to 1.5 years depending on the occupation.

Training is free in both the schools and colleges. In addition, students in secondary urban vocational and technical schools are furnished meals, uniforms and special work clothing, and those in rural schools meals, uniforms, special work clothing and a stipend.

Students in technical colleges who receive excellent and good grades in all subjects and who participate actively in civic work receive a 15-25-percent higher stipend.

Students in technical colleges receiving training in the sophisticated occupations as given on the approved lists may be paid a supplement to the established size of the state stipend to the level of the wage rate (minimum salary) of workers in the first skill category from the resources of the enterprises and organizations designated for personnel training (up to 70-109 rubles per month).

Students in certain groups of rural vocational and technical schools consisting of young people who have completed secondary education and who are learning agricultural occupations are furnished meals, uniforms, special work clothing and stipends according to the standards adopted for students of rural vocational and technical schools. Students in classes (groups) of rural vocational and technical schools who have completed secondary general

public schools and in them have received automotive training or training in the operation of tractors, combines and other agricultural machines, shall be enrolled in the schools in the machine operator occupations for a shorter period of training and paid a stipend during the studies equal to the time wage rate of a tractor-machine operator in the second skill category (instead of free meals, special work clothing and stipends paid on the general basis--from 86 to 104 rubles per month).

Those who have been discharged into the reserves from the USSR Armed Forces shall be enrolled in the schools and colleges in groups with a shorter period of study and shall be paid a stipend during the period of study in the amount of the wage rate of a worker in the skill category (minimum salary) established for workers in the respective sectors of the economy, instead of the conditions in effect for material support of the students (stipend, free meals and uniforms): in schools and colleges training machine operators for agriculture--in the amount of the time wage rate of a tractor-machine operator in the second skill category (from 86 to 104 rubles per month) instead of free meals, special work clothing and the stipend paid on general grounds.

When necessary, dormitory space shall be provided to out-of-town students in secondary vocational and technical schools and technical colleges.

Various incentive measures shall be established for the students to encourage success in academic and civic work and in socialist competition.

Students of secondary vocational and technical schools and technical colleges shall receive money payment for products manufactured in the process of their production training and also for work performed in the period of their production practice.

Students in secondary vocational and technical schools who have passed the qualifying examinations shall be issued a diploma certifying that they have received secondary education and have gained the respective vocational qualification (skill class or category), and students in technical colleges a diploma certifying that they have gained the respective vocational qualification (skill class or category).

Students in secondary vocational and technical schools and technical colleges who have a final grade of 5 in production training and at least 75 percent of the other subjects in the curriculum, a grade of 4 in their other subjects, and exemplary behavior who have passed their graduation qualifying exams with a grade of 5 and who have made themselves evident in civic work shall be issued a diploma with distinction.

Graduates of secondary vocational and technical schools and technical colleges shall be duly assigned to enterprises, institutions and organizations and shall be provided work that corresponds to the occupation and skill qualification they have acquired.

Students sent for training to enterprises, institutions and organizations shall be assigned to those enterprises, institutions and organizations for

work upon completion of secondary vocational and technical school and technical college.

Persons studying in secondary vocational and technical schools and technical colleges shall be credited with general and continuous work service during their period of study.

Benefits for Graduates of Secondary Vocational and Technical Schools and Technical Colleges

Graduates of secondary vocational and technical schools and technical colleges who have been assigned to work elsewhere than in the town of their permanent residence shall be duly paid expenses related to traveling to the place of work and shall be furnished housing and other benefits envisaged by legislation in effect.

Enterprises, institutions and organizations shall furnish graduates of secondary vocational and technical schools and technical colleges paid leave before they begin work at the wage rate (class, category) or corresponding salary, taking into account the regional coefficient in effect in the given locality.

Graduates of secondary vocational and technical schools and technical colleges who have received a diploma with distinction shall have preference in job assignments and in enrollment in higher and secondary specialized educational institutions immediately upon graduation from the school or college.

Graduates of secondary vocational and technical schools and technical colleges who have received a diploma with distinction, should they enroll in higher educational institutions, shall enjoy the advantages instituted for graduates of secondary general public schools awarded a gold medal and graduates of secondary specialized educational institutions who have received a diploma with distinction.

Persons who have graduated from secondary vocational and technical schools and technical examinations with a diploma with distinction in a specialty corresponding or related to a specialty selected from among those which USSR Minvuz [Ministry of Higher and Secondary Specialized Education] has designated to be very scarce shall be enrolled in higher educational institutions without entrance examinations upon submittal of their application.

Graduates of secondary vocational and technical schools who have graduated with distinction shall be enrolled in secondary specialized educational institutions without entrance examinations upon submittal of their application.

Graduates of secondary vocational and technical schools and technical colleges who had excellent and good grades in all subjects and passed the qualifying examinations are entitled to enroll in daytime higher educational institutions in the respective specialty (up to 10 percent of the graduating class) by decision of the teaching council immediately after graduation from the school or college.

Graduates of secondary vocational and technical schools who have enrolled in engineering and teaching schools of VUZ which train teachers for vocational and technical schools and secondary specialized educational institutions shall have priority in enrollment, other things being equal.

Graduates of secondary vocational and technical schools and technical colleges shall be enrolled in industrial teaching tekhnikums for vocational and technical education with a shorter period of study upon assignment of vocational and technical educational authorities.

UkSSR Vocational Training Described

Kiev PRAVDA UKRAINY in Russian 1 Sep 83 p 2

[Article by Ye. Kadatskiy, chairman of the UkSSR State Committee for Vocational and Technical Education: "The New Contingent of Young Workers"]

[Text] The level of training of personnel has always been one of the crucial conditions: it is advantageous to the enterprise to triumph not with numbers, but with ability. Vocational and technical education of young people takes on particularly great importance in this connection.

In the new academic year we are to carry out a number of measures to improve vocational training and general educational preparation of future workers. A beginning has been made on this--the long-range programs "Vocational Training" and "General Educational Preparation." The principal task is more and more to develop in the students the ability and habits of analyzing new information, of drawing practical conclusions from it, that is, to learn to think scientifically. The first sprouts of the new approach to organization of the process of teaching and upbringing have appeared in a number of educational institutions in Vinnitsa, Khmel'nitsa and Kharkov Oblasts.

Of course, intensification of training is inseparable from extensive use of technical aids, automated classes, computer equipment, programming, simulators, and television. Many interesting things in this respect can be seen in the vocational and technical schools of Lvov Oblast. One of them is TU [Technical College] No 59 in the oblast center, where personnel are trained for communications. At that college they decided to acquire equipment so as to shorten losses of worktime as much as possible. The college's 25 specialized rooms and workshops convince one that they were successful.

I would especially like to discuss the role of simulators. Not only is their use important as a teaching method, it also has notable economic significance. I will give just one example. Skilled people at TU No 1 in Rovno prepared a simulator to develop skills in operating a bridge crane. It consumes considerably less electric power.

I pay paramount attention to training during productive work, where abilities and also moral qualities are manifested more distinctively and where they develop. The production of machine tools, tools for fitters and assemblers, and production jigs and fixtures have been organized in the workshops of

schools. Educational institutions in eight oblasts have put a new model of a screw-cutting lathe into production.

Engineering teaching staffs are mainly oriented toward training workers with high skills and a broad background. In a joint session of the collegiums of the UkSSR State Committee for Vocational and Technical Education [Gosprofobr] and Minvodka [Ministry of Land Reclamation and Water Management] held last year approval was given to the experiment of TU No 2 in Zhitomir Oblast and the enterprise with which it is affiliated in its teaching program--the Trust "Zhitomirvodstroy"--in organizing production practice of students in the brigade-contract method before graduation.

Under the supervision of teachers, the young reclamation workers laid drain tile on an area of about 900 hectares.

Production practice at the most important construction projects of the 5-year period and on kolkhozes and sovkhozes as part of mechanized student detachments has become a good tradition. About 400 such detachments have been in operation during the current harvest campaign.

For the year as a whole the students have produced products and rendered services worth 400 million rubles. This figure could be doubled.

The June (1983) Plenum of the CPSU Central Committee set responsible tasks in improving the training and upbringing of a worthy replenishment of the working class. The party and government have shown constant concern about the system of vocational and technical education. In the Ukraine more than 640,000 young men and women are learning 650 occupations in 1,112 educational institutions. This is two-thirds of the replenishment of work collectives. Nine out of every 10 graduates have completed secondary education.

Physical plant and equipment for the education process has been bolstered. In recent years about 1 billion rubles of capital investments have been spent on construction, and 650 schools and colleges were built on a consolidated basis. In Zaporozhye, Krivoy Rog and Ternopol the Kharkov example was taken in building large vocational and technical education centers, each able to accommodate 2,000 or 3,000 students.

Every year the list of occupations is updated in accordance with the program "Labor" which is in effect in the republic.

The process of revisions is especially intensive concerning the rural schools and colleges in connection with performance of the Food Program. Their number is increasing, and new occupations are emerging. The course of creating rural vocational and technical schools or their affiliates in every agricultural region has been adopted as a long-range strategic principle. It was done first in Dnepropetrovsk Oblast.

The main thing disturbing us is improving the training of the new generation of young workers. Stress is being put on improving the quality of upbringing. The center of effort is being transferred to the training group. An important

role is being given to the social disciplines. Problem-developing training has become part of the practice of the best teachers. The know-how of the teachers L. V. Brandina of GPTU [Urban Vocational and Technical School] No 9 in Voroshilovgrad Oblast, A. I. Danchenko of GPTU No 28 in Dnepropetrovsk Oblast, V. T. Tishchenko of SPTU [Rural Vocational and Technical School] No 17 in Zaporozhye Oblast, and P. A. Gromova of GPTU No 11 in Poltava Oblast has been summarized by the republic teaching methods office.

In upbringing it is our intention to make still more consistent use of work forms which have met the test of time--rituals related to symbols of the homeland, the All-Union Lenin Pledge, lessons and reading about Lenin, and workshops in the network of Komsomol political education.

Recently there have been quite a few interesting things adopted in the indoctrination of internationalism and patriotism. In Kharkov Oblast, for example, veterans of the Great Homeland War gave help in setting up 35 museums and rooms devoted to combat and labor glory, and 37 monuments and obelisks were erected.

It is becoming extremely important to instill civilized socialist attitudes. We are paying particular attention to those schools and colleges where there have been shortcomings in the ethical education of young men and women. We believe that the way to completely eradicate negative manifestations is to set up a system in which the pupils are completely occupied according to their interests and to organize effective work where they live.

At the same time there are quite a few shortcomings in the work of UkSSR Gosprofobr. This was stated with full party directness and devotion to principle in the report of Comrade V. V. Sherbitskiy, member of the Politburo of the CPSU Central Committee and first secretary of the Ukrainian CP Central Committee, at the June Plenum of the Ukrainian CP Central Committee. In a recent session of the Collegium of UkSSR Gosprofobr in which chiefs of oblast administrations participated there was an exacting and self-critical discussion of the state of affairs, and a specific and consistent program of measures was outlined.

On the whole the system of vocational and technical education is ready for further improvement of the training of skilled workers. But it also has its difficulties. The balance calculations of the distribution of graduates of the 8th and 10th grades between further study and the economy do not fully meet the needs of the economy. In addition, the figures are departed from year after year, and not to the advantage of the vocational and technical schools. We hope that UkSSR Gosplan will reassess the situation that has come about. It would seem that it would not hurt for the soviets of people's deputies to keep a closer watch as well.

According to the figures of the All-Union Scientific Research Institute for Vocational and Technical Education, one out of every two students completing the 10th grade wants to go to a VUZ, one out of every three to a tekhnikum, and only one out of 10 to a vocational and technical school. According to the figures of the republic's central statistical administration, only 28

percent of secondary school graduates study or take jobs in accordance with the occupation they have acquired in the consolidated production training center. This means that the forms and methods of guidance of young people into worker occupations needs to be improved.

The first half of the 5-year period has ended. The results of 1983 will largely determine fulfillment of the 5-year plan as a whole. That is why all the organizational and political activity of the republic's vocational and technical education authorities is subordinated to the main goal--enhancing the responsibility of the personnel of the system for training and bringing up a worthy replenishment of the working class. To implement the decisions of the June Plenum of the CPSU Central Committee, and to fulfill the assignments of the 5-year period.

[Box]

The new academic year is a special one. Not so long ago the June Plenum of the CPSU Central Committee took up the urgent issues in ideological and mass-political work. Its decision imposed particular responsibility of those on whom the bringing up of the adolescent generation depends. "The party is seeing that in our country," Comrade Yu. V. Andropov noted at the plenum, "man is brought up not merely as a receptacle of a certain sum of knowledge, but above all as a citizen of a socialist society, a vigorous builder of communism, with the ideological principles appropriate to communism, with ethics and interests and a high standard in his work and behavior." It is in the light of these principles, which have fundamental importance, that teaching staffs are now looking upon the work of teaching and upbringing in the new academic year.

Industry Supports Vocational Training

Kiev RABOCHAYA GAZETA in Russian 1 Sep 83 p 2

[Article by V. Plokhii, first deputy chairman of UkSSR Gosprofobr: "Today an Achiever, Tomorrow a Production Innovator"]

[Text] What awaits those who yesterday graduated from general public schools and decided to master a worker specialty? Today the entire system of vocational and technical education is experiencing profound qualitative and structural changes. First of all, graduates of schools and colleges as a rule also acquire secondary education along with their worker skill category. Second, there are more and more occupations in which training can be given only on the basis of secondary education.

These are the high requirements that scientific-technical progress, which affects all sectors of the economy, are placing on young workers. Industry today has an ever greater need for workers to adjust, service and repair automatic production lines, machine tools with numeric programmed control, automatic manipulators, and microprocessors. Every year more and more skilled workers graduate with a broad background, people able to work successfully in mixed brigades and to perform not one, but several operations.

Syllabi and curricula assume that the new generation of workers will be trained in the process of manufacturing sophisticated industrial products. For instance, since the beginning of the 5-year period students in vocational and technical schools have manufactured more than 2,000 metal-cutting machine tools and have produced other industrial products worth tens of millions of rubles.

Radical changes have also taken place in rural vocational and technical schools. In the period of production practice the young people furnish a great deal of practical assistance in raising and harvesting farm crops and in caring for animals. Most of them work in mechanized detachments and links under the supervision of experienced teachers. The land which is allotted to the schools and colleges yields a large benefit. This year's plans call for harvesting 3,500 tons of grain and obtaining 1,400 tons of meat and 3,000 tons of milk from the fields of school farms.

The efforts of vocational and technical education authorities are concentrated on deepening the content and improving the organizational forms and methods of the process of education and upbringing. The plant and equipment of the schools and colleges are developing. In most of them all the conditions have been created for the young people to successfully master general educational and vocational knowledge, to raise their ideological and cultural level, and to engage in physical education and athletics. In the republic 400 new schools and colleges meeting the highest requirements have been built in just the last several years. Curricula have been revised, the subject matter taught in general and specialized disciplines has been improved, new subjects have been introduced, and the vocational training of the students has been expanded and deepened. Competition has spread widely under the slogan "Today an Academic Achiever, Tomorrow a Production Innovator and Front Ranker."

The entire effort of vocational and technical schools in education and upbringing is aimed at instilling in the young men and women love for the work which they will be doing and a desire and ability to add to their knowledge on their own and improve their skill.

This is in fact yielding favorable results. Year after year there are more young people with a "good" and "excellent" academic record, there are more and more graduates who have qualified for higher skill categories, and one out of every 10 graduates from the vocational and technical school with distinction.

Yet there are still serious shortcomings in the organization and management of the process of teaching and upbringing, in the quality of vocational training and general educational preparation, and in the selection of the engineer teachers. In a number of schools and colleges discipline is still low, and upbringing is neglected. An expanded session of the Collegium of UkSSR Gosprofobr held in June, and also oblast and the Kiev city pedagogical conferences held in June, and the pedagogical councils of vocational and technical schools critically analyze the state of affairs in teaching and bringing up the students, and they drafted specific measures to perform the

tasks arising out of the decisions of the June (1983) Plenum of the CPSU Central Committee and the speech delivered at the plenum by Comrade Yu. V. Ar-dropov.

There is much to be done in the new academic year so that every teacher and skilled workman pays better attention to the quality of the students' knowledge. Achieving that requires regular vocational improvement of the teachers themselves, of the skilled workmen and counselors, improvement of their specialized knowledge, their political-ideological level, and their teaching skills.

The principals have a duty to set the example here. There are quite a few talented principals of educational institutions in the republic's system of vocational and technical education who are searching and who are devoted to their work. For many years TU No 5 in the city of Kazatin in Vinnitsa Oblast has been headed by Yu. B. Zorgach, UkSSR Distinguished Worker in Vocational and Technical Education. Thanks to his constant creative search, his great teaching skill, and his exactingness toward himself, the workers and the students, he has managed to create a close-knit collective. On the basis of the results of the All-Union Socialist Competition for Worthy Celebration of the 60th Anniversary of Formation of the USSR the college was awarded the challenge Red Banner of the CPSU Central Committee, USSR Council of Ministers, AUCCTU and Komsomol Central Committee. Hero of Socialist Labor A. V. Gadyatskiy, principal of Rural Vocational and Technical School No 4 in Sumy Oblast, and many others enjoy deserved prestige and profound respect among teachers and students.

The tutor system plays an important role in preparing the new generation of workers. This is an immense potential for increasing the quality of the entire effort of teaching and upbringing. The veterans give practical aid in unifying the experience of those who are older with the enthusiasm of those who are young and to extend the lively connection between the generations. A. V. Gitalov, a machine operator who has twice been Hero of Socialist Labor, the metallurgist F. Ya. Gorban', the miner I. I. Strel'chenko, and hundreds of other party members and production innovators whose working life began with the vocational and technical school and is bound up with it even today, provide a wonderful school of labor for the students. We are profoundly convinced that the meeting with party veterans in the CPSU Central Committee will help to invigorate still more their noble activity in bringing up the new generation of young workers.

A businesslike relationship between vocational and technical schools and the work collectives of enterprises with which they are affiliated in training programs has great importance in carrying out the tasks of upbringing. The collectives of the Kommunarsk Metallurgical Plant in Voroshilovgrad Oblast, the association "Donetskugol'," the Association imeni S. P. Korolev in Kiev, and the kolkhozes "Rodina," "Pobeda" and "Ukraine" in Pokrovskiy Rayon of Dnepropetrovsk Oblast, and many others work in close contact with vocational and technical schools.

At the same time some enterprises with this kind of affiliation are still taking the attitude of a consumer toward the vocational and technical school, their interest is only in obtaining more skilled workers and in investing less energy and fewer resources in their training, they do not show due concern for staffing the schools with skilled workers for production training from among front rankers and production innovators. For instance, in one school or college out of three that is training personnel for the coal industry there are no school mines; some construction organizations of UkSSR Ministry of Coal Industry are failing year after year to fulfill assignments for building the facilities for vocational and technical education, regarding them as secondary.

It is well known that many graduates leave production in the very first year because they are assigned to jobs outside their specialty and because they are not furnished the necessary housing and consumer services. During this year a regulation was adopted on the personnel administration of graduates. This will make it possible to determine in advance in what brigade and at what job the graduate will work, and how housing will be furnished him.

One of the most important tasks of vocational and technical schools has been and still is to instill in students a spirit of Soviet patriotism. Celebration of the 40th Anniversary of the Outstanding Victories of the Soviet People in the Great Homeland War helped considerably to improve this effort. The students take an active part in the measures of the All-Union Pilgrimage to the Sites of Revolutionary, Combat and Labor Glory of the Communist Party and Soviet People, and in expeditions entitled "My Homeland--The USSR" and "Chronicle of the Great Homeland War." They have set up more than 800 museums and one-room displays devoted to the wartime and labor exploits of the Soviet people. In oblasts, Kharkov Oblast can be taken as an example, associations of heroism and patriotism have been created, and in schools clubs of heroism and patriotism. This effort is being directed by a republic headquarters.

The question of intensifying the indoctrination effort with students according to their place of residence has not been removed from the agenda. The important thing here is to unify in the same direction the efforts of collectives of schools, enterprises, councils of microrayons, housing management offices, the family, the broad public, and trade union and Komsomol organizations--in short, all those who should be concerned about bringing up the young generation.

LaSSR Gosprofobr Chairman Interviewed

Riga SOVETSKAYA LATVIYA in Russian 4 Sep 83 p 2

[Interview with Yan Yanovich Brodelis, chairman of LaSSR State Committee for Vocational and Technical Education, by LatINFORM correspondent: "School for Worker Occupations": date and place not specified]

[Text] In recent years more and more young people have been mastering worker specialties. Vocational and technical schools have become a most important

source of skilled personnel to replenish the economy. On the eve of the new academic year our correspondent interviewed Ya. Ya. Brodelis, chairman of the LaSSR State Committee for Vocational and Technical Education.

[Question] At many enterprises in the republic graduates of vocational and technical school are the backbone of highly qualified cadre workers. Yan Yanovich, what sort of tasks face the Latvian vocational and technical education system in the current academic year?

[Answer] The June (1983) Plenum of the CPSU Central Committee confirmed once again our basic task--constantly replenishing the working class with skilled and knowledgeable specialists, inculcating in them a spirit of high ideals, devotion to Leninist precepts, and a responsible attitude toward work. Good conditions have been created for preparing young replacements. Our educational plants, with workshops and laboratories, have up-to-date equipment. Comfortable dormitories, athletic facilities, and cultural and consumer service buildings have been built. This year about 24,000 young men and women will for the first time enroll in courses in 82 schools and colleges in the republic. Training is offered in them in more than 200 specialties of agriculture and industry. And in the evening PTU [vocational and technical school] in Riga, Daugavpils, and Liyepaya workers will be able to improve their qualifications and master a new specialty while still working.

[Question] The rates of economic development and scientific-technical progress are creating a need for occupations which previously did not figure in vocational and technical curricula. How are the demands of the day influencing the composition of specialists being trained?

[Answer] As is well known, one of the urgent problems is the automation of production, reduction of manual labor with the help of robotics. Technical maintenance personnel are required to perform this task successfully. Last year the Riga GPTU [Urban Vocational and Technical School] No 2 for the first time issued an invitation to those who want to master the specialty of set-up-men for maintaining complexes of machine tools and manipulators with programmed control. Now the number of such groups has increased.

The effectiveness of the system of vocational and technical education depends to no small degree on how rapidly it can take into account the needs of the sectors of the economy, the availability of labor resources in the republic's various regions. For instance, we have schools training workers for the chemical industry. As time has passed the demand for specialists with this kind of background has increased, but the number of graduates has remained the same as before. Taking this into account, this year we opened up yet another school in Olayne, which will make up the shortage of personnel for Latvia's chemical industry.

Among the new occupations we should note that of restoration experts. The training of specialists to restore architectural monuments is dictated by the tasks of rebuilding Old Riga and restoring the Rundal'skiy Palace, the Siguldskiy Castle, and many other historical structures in the republic.

Additions have also been made in the list of rural specialties. At one time during the harvest season work was unceasing in the forges of kolkhozes and sovkhoses, going on day and night--they were forging horseshoes, they were doing small repairs on agricultural equipment. Now the blacksmith's occupation is among those which have been forgotten undeservedly, though, as experience shows, time has not written it off as yet. That is why a department for "blacksmithing" has been opened in the Yaunelgava SPTU [Rural Vocational and Technical School] No 1. This year the "geography" of rural schools and colleges train' g skilled workers for machine milking has also expanded.

[Question] At times even an institute might be envious of the competition for certain schools. Still it is not easy everywhere to get students. How has the PTU been filled this year?

[Answer] The training of skilled workers is a task of importance to the state, to the entire nation. Everyone must work together in performing it--the teaching staffs of general public schools, the management of enterprises, the executive committees of soviets of people's deputies, and public organizations. Work in vocational guidance goes on year round in the PTU system. "Open Door Days" have been established, joint measures with schoolchildren are organized, and the achievements of our pupils are widely popularized at the republic exhibitions of technical and artistic creativity held in the spring.

In those regions where true concern is shown for bringing up the new generation of young workers, there are no problems with recruitment. At the same time the situation with staffing the PTU with builders has been unfavorable year after year. And now the plan for enrollment in the schools of Daugavpilsskiy and Saldusskiy Rayons and Leninskiy Rayon in Riga has not been fulfilled. Yet the economy of Ludzenskiy, Ventspilsskiy and Balvskiy Rayons probably does not experience a need for skilled workers on livestock-raising farms--they have not sent a single person to learn the specialty of machine milking.

[Question] At the June (1983) Plenum of the CPSU Central Committee there was discussion of the need to raise the level of indoctrination work in schools and PTU. What aspects of political-ideological, patriotic and esthetic upbringing are at the center of attention of teaching staffs?

[Answer] Bringing up the new generation must be accompanied by the party and Leninist approach to shaping the outlook of young men and women and this must be done with the examples from the heroic history of the Soviet people. In connection with this task it has become especially important to teach the social disciplines and to improve the qualifications of social science teachers. We are paying the most steady attention to the internationalist upbringing of the young men and women.

In 1985 an important date will be celebrated--the 40th Anniversary of the Victory of the Soviet People in the Great Homeland War. This event is a most important incentive for further improvement of the political-ideological, patriotic and international upbringing of the students. Along with all the

young people of the socialist countries, our students will take part in the "Memory" relay of patriotic deeds. They will also prepare for the All-Union Review of Amateur Artistic Activity, which is devoted to the 40th anniversary of the great victory.

Student Withdrawal Case Described

Moscow VOZDUSHNYY TRANSPORT in Russian 1 Oct 83 p 3

[Article by Ya. Pen'kov, VOZDUSHNYY TRANSPORT special correspondent, Krasnoyarsk: "On the Road Without Landmarks"]

[Text] It is a case, let us be frank, without precedent: in just the first 2 weeks since the beginning of the academic year a number of students has submitted requests that they be discharged from the Krasnoyarsk Aviation Engineering School of Civil Aviation. People in the school had explanatory talks with them and tried to persuade them to stay. And if the efforts of the teachers prove futile, then a telegram signed by the principal of the school is sent to the parents reading: "Your son has applied to withdraw. Let us know your opinion...."

When I went to Krasnoyarsk, I already knew about the problems and difficulties facing the evolution of the youngest secondary specialized educational institution in the sector. That made me even less likely to expect this case of certain students in the first year after literally a very short time....

What compelled the young men to change their life plans so abruptly? How did it happen that the young people left the school without lengthy reflection? And what were they thinking about when they entered this educational institution?

Most of the "runaways" explain their decision by saying that they did not have an idea about their future specialty. In our view this admission requires a detailed analysis.

We remember that not long before the school was opened there was a report in the pages of the newspaper VOZDUSHNYY TRANSPORT about how many educational institutions in the sector were taking part in setting it up. Serious aid was also anticipated from the West Siberian and East Siberian administrations: after all, it is mainly from those regions that the young people were to come to the educational institution, and where they would return after graduation to work in their native regions. As we see, they are unfortunately going back ahead of schedule.

In conversations with those who applied to be discharged it turned out that some of them had come to learn to be ... pilots, while others had thought they would receive training here as ... electricians. The conclusion suggests itself that in these administrations the work of vocational guidance with young people has not been organized as it should have been. Just fulfill the recruitment plans, and for the rest, let it go. We already know the price of that kind of approach to work with young people....

But the young men from Krasnoyarsk had to withstand rather keen competition to be enrolled, there were 124 applications for the 20 places allocated to them. Later, because of underrecruitment of students in certain regions, the number of places for those from Krasnoyarsk Kray was doubled by permission of the UUZ [Administration of Educational Institutions] of the MGA [Ministry of Civil Aviation].

But it would not be altogether objective to attribute the applications for dismissal solely to shortcomings in vocational guidance programs in a particular civil aviation administration. There are also other weighty causes.

A sufficiently good moral climate has not yet been created in the school, which is the direct consequence of oversights in the selection and assignment of personnel. This fact is sufficiently illustrative: during the brief existence of the educational institution there have been three changes of the school's deputy principal for political indoctrination work.

One of them, the students acknowledge, was like "their own father," but he did not distinguish himself by his businesslike qualities and initiative. After working for a short time, he left the school.

The second proved to be an altogether unfit individual. As it later turned out, he had been discharged from the air force, as they say, without the right to wear the uniform. This bad influence was dismissed from the school at his own request, but before that he had caused the staff quite a few worries and troubles.

It is not difficult to guess what sort of "legacy" his predecessors left to the president deputy principal of the school for PVR [political indoctrination work] P. Velichko, who in the past graduated from the Kiev Institute of Civil Aviation Engineers with distinction. One would hope that with the arrival of this political worker the process of teaching and upbringing will improve.

A few more words about the personnel problem....

If we look at the school's organization chart, we note 60 (60!) vacancies. This cannot, of course, but have an adverse effect on the quality of instruction of the students, and it unquestionably causes nervousness and strain in the young teaching staff. They explained to me that it has been difficult to fill the vacancies with experienced specialists because the school does not possess an adequate housing stock. And this question has still remained exceedingly acute, just as in the past.

Now let us see how the physical plant and equipment of the school has been created. The school's deputy chief for academic work A. Yesyakov showed me well-equipped classrooms and laboratories. He is practically the only one on the staff who has experienced teaching in a secondary specialized educational institution in civil aviation; he came to Krasnoyarsk from the Riga Aviation Engineering School. He has ardently undertaken to equip the lecture halls with the most up-to-date equipment and instruments. The building of a radio

teaching lab has begun; this is so necessary for the students to acquire practical habits in technical operation of ground equipment for aircraft guidance and landing. This specialty, it needs to be emphasized, is a very interesting and very important one in civil aviation.

Yet it seems that the school could have developed at a far faster pace. As we know, this educational institution was not set up on an empty site. The airport for the local airlines was moved to a new field, and in accordance with the established schedule the aviation enterprise turned over to the school its old office buildings. Of course, they needed not only "cosmetic repairs," but restructuring for classrooms and laboratories.

But there have been and still are constant departures from the schedule for transfer of the buildings, and the Construction and Installation Administration No 10 of Civil Aviation is not only doing its work extremely slowly, but often the quality is low.

A concrete plan for the school's social development has not yet been drafted, and this is creating great difficulties in organizing instruction, everyday life and leisure for the students. The new students arrived in September--and immediately it was cramped in the lecture halls and in the student dormitory.

I stopped by the dormitory one evening. The students were lounging around with nothing to do, bored to death. Some of them were sitting on their beds smoking. Some people would have reproached them and made them ashamed.... There are not enough counselors in the dormitory. Jobs were offered to six, but only one has stayed.

Left to themselves, quite often the students commit disciplinary breaches and violate the rules. A number of second-year students, for example, thinking of themselves as "upperclassmen," ignore the morning calisthenics, considering this the "fate" of the new boys.

... We recall that when the school was opened quite a few promises were made about aid and support. At the same time there was a public announcement of sponsorship of the educational institution by the Krasnoyarsk Civil Aviation Administration. A wise rule has been posted in a visible place there in the administration: "If you want to resolve an issue, look for solutions, if you don't, look for causes."

How has this precept been implemented in the specific matter of sponsorship? The supervisory personnel of the administration we were able to talk to were personally in favor of the initiative to create the school. When it came to be a question of the difficulties the educational institution was experiencing, there was reference to all possible causes which are standing in the way of the young school's evolution.

Time is fast-flowing and unstoppable. A year and a month ago the school enrolled its first students. There remain a year and 8 months before the first graduation of specialists will be held.

... But at present the applications are continuing to come in: "I want to be discharged from the school...."

Students Unprepared for Workplace

Moscow TRUD in Russian 5 Oct 83 p 2

[Article by M. Makhmutov, member of the USSR Academy of Pedagogic Sciences, director of the Scientific Research Institute for Vocational Teaching of the USSR Academy of Pedagogic Sciences, Kazan: "The Threshold of Adulthood"]

[Text] I recently had a talk with a skilled worker in the Production Association "Nizhnekamskshina." "Are you satisfied with the graduates of the vocational and technical school?" I asked him, pointing to the young workers near the autoclave. "It takes a long time to 'bring them up' to the necessary level," he replied. "They know the machines, of course, it is just that they are listless and lackadaisical about the work, as if they were playing. By the time they begin to feel a responsibility for the work of the brigade, for the plan, by the time they begin to meet the quota--more than 1 month will have passed."

Many production workers are complaining today about the so-called phenomenon of the late maturing of the young generation of workers. Why does it take young people so long to adapt to the conditions of production? I consider the main cause to be an insufficiently serious attitude toward work that was implanted back in childhood and reinforced in youth. What is it that above all forms in an adolescent a feeling of duty, and understanding for his place in the work collective? Work and work alone--the perpetual teacher of life, and that work together with adults beginning early.

I recall that in the years of the Great Patriotic War a third of the steel in the country was smelted by the hands of those who were between 14 and 17 years old. Just think of that figure! Of course, the special extreme conditions of the strain made by the entire nation had their effect, but one also cannot deny the fact that the prewar adolescent generation took part in socially useful work much earlier than the present one and learned to assess its own actions in an adult way. And we would like to achieve the same attitude toward work from an "ignoramus" who for 8 to 10 years has had only the responsibility to the teacher for a few pages of the textbook studied per day....

I will not oversimplify the problem: when a young worker comes into the shop who has not mastered the social ABC's of behavior in the work collective, this means that something needs to be changed in the process of teaching and upbringing. And this applies above all to the school.

It is quite obvious that the present structure of the school still does not suit the level reached in the country's social and economic development, nor can it open up prospects for further development of society and its productive forces. The contradictions enumerated at the June (1983) Plenum of the CPSU Central Committee between school education and the economy offer the basis for serious reflections. The pace-setting character with which secondary

education is being acquired is more and more coming into contradiction with the extremely slow mechanization of labor. For that reason enterprises have been compelled to offer to those who have just graduated from the 10th grade or even from secondary PTU unproductive physical labor which the latter simply do not want to engage in.

But the main trouble of the general public school lies in the purely theoretical nature of learning which orients the pupils toward continuing their studies, and not at all toward work in the sphere of physical production. It furnishes knowledge, it mainly teaches habits in academic learning, and its polytechnism is limited mainly to examples from production processes which illustrate certain theoretical principles of physics, chemistry and biology.

What is the way out of this situation? In his speech at the June Plenum of the CPSU Central Committee Comrade Yu. V. Andropov rightly emphasized: "Combining study with productive work is a good means of upbringing." It is precisely in this combination, which fully conforms to the principles of Marxist-Leninist theory, that we see a pledge to successful performance of the task of vocational training of the young generation.

As we know, V. I. Lenin supposed that if certain conditions were met, the general public school should "offer someone who fully knew his job, who was fully able to become a skilled workman and a joiner, carpenter, mechanic or the like who had the practical training for this." Lenin went back repeatedly to the question of work training at an early age.

Conscious and disciplined work--that is the basis of productive work, and not simply turning metal or wood into shavings, even though for good purposes in education. After all, this is precisely the way most look on their work classes in the school. Of the 37 hours in the weekly load the school pupil from the 1st to the 8th grade spends only 2 hours in work training (moreover, this is unproductive work), and often this has no other purpose than to be noted in the teacher's book. The result is that the classes are held, but there is no work in them.

Yet the physical and technical facilities of both production and education have better conditions today than earlier to organize the productive labor of students related to manufacturing useful products, and at the age of 16-17, to also acquire the occupation of joiner, mechanic, truck driver, tractor operator and tens of other specialists, especially in the service sphere. Full mechanization and automation of present-day production is making work processes considerably easier, increasing the share of mental load and reducing the share of physical load in those processes. And this alone is an important condition for adolescents to become involved in a useful effort at an earlier age.

That is why the program for work training in the school needs to be changed. There needs to be a new answer to the question: How is work to be taught, and how much time is to be given to it?

Now the school mainly offers only general work skills and habits and polytechnical skills and habits: students in grades 4 through 8 have shop classes, and those in the upper grades go to the UPK [multipurpose production training center], where they acquire certain vocational knowledge and master certain operations. That is what 17-year-olds take with them when they leave school. Those who go immediately into production augment the ranks of the unskilled workers. It is this "less-than-vocational" training of school pupils that is one of the reasons why vocational and technical schools are forced even in the simplest specialties to train young people for 3 years, spending 3-4-fold more resources than necessary in training workers in the most common occupations.

Over the last 10 years an extensive network of multipurpose production training centers has been created in the country for students in the upper grades. But, as experience has shown, the pedagogical return from them is still not great as yet. This type of work training is not very effective, above all because those entering the 9th grade are usually not inclined toward a worker occupation, but toward enrollment in a VUZ. Research shows that the number of those declaring a desire to go to an enterprise, construction project or kolkhoz is no more than 20 percent of them, i.e., between one-sixth and one-seventh of the need.

Why is work training not giving the anticipated result in terms of upbringing? First of all, because work, as A. S. Makarenko put it, which is not aimed at creating values, is not a constructive element in upbringing. Second, combining learning with productive work needs to begin not in the 9th grade (at age 16), but in the 4th or 5th (age 11-12)--at the optimum age for beginning to shape in a person a professional orientation and to discover abilities. The curriculum should make provision for work training in the 4th grade to gradually become productive labor in the 5th and 6th.

In a number of cities in the country a new form of organization of work training of schoolchildren has emerged in which students in the 4th or the 8th grade work in school shops equipped for productive labor. On the basis of an agreement with sponsoring enterprises, they manufacture parts the customer needs, help to relieve the basic production operations of various "trifles." The younger schoolchildren are engaged only in manual labor, students who are a bit older acquire the elements of technical work, and beginning with the 7th and 8th grades they work only on machine tools. But a number of problems arise in this connection: this kind of organization of work is simply beyond the capacity of the individual school--a good educational and production facility, good equipment and personnel are needed.

In Kazan they have found a way out of the situation. In Moskovskiy Rayon an interschool multipurpose production training center has been in operation for 3 years; within its walls work training and vocational guidance are furnished to students between grades 4 and 8. By contrast with the previous UPK for students in the upper grades, it is referred to as the UPK-2. Its six shops have been wonderfully equipped by the rayon's enterprises. Each has been divided into three sections according to the program of study and the age of the students. The lathe section is especially impressive: an even row of

up-to-date machine tools adjusted to the height of the young lathe operators, fills the large bright room. About 3,000 students are acquiring here polytechnical and certain general vocational knowledge and habits. On orders from enterprises they are turning out threaded stud bolts, washers, handles for tools....

The enterprises are seriously interested in their unusual affiliate--all the problems of its material support are planned in advance. The process of filling the orders has been technologically designed so that it requires close relationship between the joinery shop, the fitting shop and the machine shop which also handles electrical work. Every young worker is clearly aware that the final result in the entire flow line depends on the quality and pace of his work. In the classes the students are broken up into brigades, they choose their brigade leaders, they become familiar with the elements of the brigade contract, that is, they become directly involved in production relations. It is not playing at work, but real work that is useful to the state, a solid contact with production--authentic work training cannot be anything else. At present the training is accommodated within the framework of the existing curricula--the same 2 hours a week, but the effect could be far greater if the allotment to work training were increased to 4-5 hours by spending less time on theoretical study.

The work in the UPK-2 is reinforced by participation of the students in groups for technical creativity, "skilled hands," sewing, cooking, airplane and ship models, where they no longer encounter the traditional fitting and lathe operations, but up-to-date technology--computers, transistors, microcompressors, and so on, which contributes to the preparation of future production innovators and inventors.

This approach to organizing productive work of the students deserves the most careful attention. By beginning work training with schoolchildren not at age 16, but at an earlier age, we would seem to be increasing the time for shaping in them a need to work.

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CSO: 1828/29

EDUCATION

SOCIAL CHANGES POSE CHALLENGE TO EDUCATORS

Formalistic Routine in Teaching Opposed

Moscow PRAVDA in Russian 5 Oct 83 p 3

[Article by G. Zhavoronkov, candidate of pedagogical sciences: "Schools Require Talents: Problems and Opinions"]

[Text] Pedagogical public opinion justifiably links successes in the forming of the younger generation with the attraction into teaching school of persons who are talented, involved, and who have a profound understanding of their lofty mission. In connection with this, the letters being sent to the editors concerning the further improvement of schools are sharply critical of everything which hampers the creative work of teachers, which sometimes compels highly gifted educators to seek to use their capabilities in another field. In the article published by us today the author attempts to find an explanation for the situation which has taken shape.

A schoolteacher's talent possesses an amazing force, capable of creating around him a field of inquiry, inspiration, and joy. He is incomparably generous with his patience, kindness, and magnanimity. His ultimate goal is not merely to express himself but to reveal to their limits the creative force of his pupils, to bring out new talents.

Every such educator, as was noted at the June Plenum of the CPSU Central Committee, is an invaluable property of our society. But do we have a sufficiently careful regard for a teacher's originality, and are we always able to assist in discovering his best qualities and capabilities?

I remember very well how our dean paid a special kind of attention to the men's faculty. "This is our gold fund," he used to say.

And, indeed, it was impossible to fault those few youthful faculty members for any lack of energy, ideas, and a passionate desire to endow their individual creative work with illumination. In their teaching practice sessions in school they glittered with erudition, easily gained authority over the class, and always worked with ardor and pedagogical inspiration.

Most of them left the institute with the red-colored diplomas of outstanding graduates. To be sure, they, like the ordinary diplomas, listed the profession: "schoolteacher." But at the institute everyone was convinced that within 15 or 20 years it would be precisely they who would come to the traditional gathering of honored and best-loved teachers.

The tradition has been broken, and it has been many years now since the graduates of various generations have assembled at our institute. But during all these years I have attentively scanned through the pages of newspapers and journals, as well as attending pedagogical debates, expecting at least meetings over physical distances, and desiring the predicted successes of my fellow alumni.

No, the names of most of our outstanding graduates in education have not remained, their triumphs have not occurred there, and they have left the field of schoolteaching.

Could it be that they were really lacking in talent and had no calling? If only.... From a civic point of view, i. e., with regard to the energy with which they were endowed and the contributions which they have made to public life, their destinies have been beyond reproach. Many have been honored for their own merits today but, unfortunately, in other fields.

And here is what is characteristic--everyone who has quit teaching school has retained in his soul a continuing nostalgia for it, for pedagogical creative work. All of them, as a rule, have remained in contact up to now with two or three generations of their own former students and have kept track of them attentively, tracing the steps made by each of them.

Of all those whom I met, only one categorically replied "No" to the question: "Would you like to return to teaching school?" The others answered "Yes," but with a hundred and fifty stipulations.

The reasons were manifold, but nobody mentioned an increase in wages, which many persons now view as the principal problem of a schoolteacher. Encountered most often among the stipulations was the notorious word "formalism," which came to class from the bureaucrat's office and has unexpectedly found favorable soil.

Might it be that they are somehow incorrect? Could it be that everything in the school is not that way at all and that the "departees" are asserting something like an insult?

Let's drop in at the office of a director of some school and ask him how he reports in the rayon or oblast on the work of his teachers.

In the first place, he will cite for you the percentage of the pass rate (and this despite the "rejection" by the Ministry of Education of "percentage mania"); then he will report on the number of pupils who have been accepted at VUZ's and on the lack of "repeaters" in the school. To the black marks in the strict records of the commissions of juvenile cases he adds the total of

of public measures, including the tons of waste paper or scrap metal collected by the children. And all this turns out to be part of a "victory" gained in a competition.

To be sure, if you remain significantly silent while examining the records, then the school director will also tell you about the optimization of the educational process and about the immeasurably increased qualifications of his teachers with the aid of special courses, as well as about the children's self-government, and the increased responsibility on the part of the pupils. But these additions are not at all mandatory; they are merely by way of making conversation.

Could it be that the director of that school which we have dropped in on is a formalist, a dogmatist, who, by chance, has taken the career path of education? And where is the evaluation of the teacher's work with regard to intensification of instructional methods, creative revelation of the pupils' capabilities and individual personalities, and the seeking out of the most up-to-date paths of education? With regard to initiative, ardor, and, finally, talent for teaching? You will not find these points in any register of records.

The best directors of schools in workers' practice, do, of course, have them, but only for internal use. Such a system of evaluating a teacher's work does not bring them any glory. Nor any spiritual confidence.

I often recall the speech made by one director of a Krasnodar school in court in defense of his pupils who, on the day of the graduation evening had committed an extremely serious crime. According to his words and evaluations, i.e., according to those same percentages and kilograms, they were outstanding children. They kept up with the pass rate and did not shirk the collection of waste paper. But they certainly did commit that crime!

Quite recently I decided to check out the school characteristics among young "job hoppers" at a certain plant. According to the evaluations which were given to them, these kids should have been immediately enrolled among the shockworkers. They were said to be industrious, and disciplined, and always responsible for the task assigned to them. But these "responsible and industrious" kids have already changed jobs five times in their very first year after graduation. What kind of schoolteachers are those who gave these young people such sham "moral grades?" Satisfactory and frequently even the leading ones.

But inasmuch as this evaluation system exists, exactly whose purposes does it serve? Obviously those who cover up the actual state of affairs with the external appearance of well-being. Of course, such an evaluational system permits an unconscientious teacher (and, at times, even a conscientious one under administrative pressure) to award a mark of three instead of a two, and an undeserved five instead of a deserved four, and to release out into the world a "gilded" youth, whom it is a joy to behold. But it is not for display that he is needed--rather for the most immediate work, a task for which he sometimes proves to be incapable.

With such demands being made on the school, a questing and daring teacher is only a burden to a director. He will bring the director only unpleasantness. Ask school directors the following question: who among them is now prepared to take for work into his own teaching staff innovative teachers who are famous throughout the entire country? A few dozen would agree, while thousands would refuse. Why? Well, because you couldn't protect yourself against trouble with them. Because each of them has brought into his teaching and education something of his own, something individual and personal, something which has crossed the magic circle of the old, "established" methodology. Their lessons cannot be measured by the ordinary yardsticks, and you will inevitably come into conflict with the local educational supervisors, and from being the leading schools you will become the ones lagging behind. But what, then, can be said about a young schoolteacher, one who has just begun his pedagogical life?

Let's attempt to compare his expectations with the actual demands which will be made on him by today's school.

The graduate of a pedagogical VUZ, upon receiving a travel-authorization to a school, is absolutely convinced that he is entering upon a position as an "engineer of human souls." In actuality, what is being prepared for him is a job which is essentially that of a "copyist," and his skills will be evaluated according to the criteria of the latter specialization. That is, he will be required to observe a standardized methodology, wherein the educational steps are designated by the minute, and the goals and tasks of the lesson--by the second.

The young teacher is convinced that he is working for the morrow, when his pupils will fully reveal their own moral and labor maturity. It turns out that, no matter how strange it may seem, the school is far less concerned about the morrow than it is about the present day, for which it is constantly being held accountable.

The young specialist anticipates creative, inspiring work, but what lies in wait for him are endless hours of tedious accounting reports, exhausting summarizing, and sweating over accumulated data.

Thus, we have considered three aspects of the lack of commensurateness between what is anticipated and what is real, discrepancies which, according to the assertions of the psychologists, inevitably lead to internal and external conflict. I have designated only three, but, in fact, there are, of course, many times that many of them. For the sake of being convincing, let me cite another one--the age discrepancy. The young teacher is 25--26 years old, while the average age of the present-day teaching staff is around 50 or more. Sociological studies and psychological experiments have shown that to join such a group and assert oneself in it is much more difficult because the beginning teacher is not always prepared to seek out a common language with his elders, and, at times, he himself does not meet with understanding.

It is undoubtedly true that there have always been, and will always be, contradictions between what is expected and what is actual. But the bottom line is that they ought not to be antagonistic.

Externally, the young specialist is reliably protected from all kinds of unexpected events. He cannot be dismissed or be demoted; he is given a period of time to adapt. But internally he is without protection against excessive accountability and rigid methodological supervision. It is not by chance that there are also conflicts here with experienced advocates of the old methods of instruction.

Of course, a run-of-the-mill person can also leave the field of teaching. Only he will leave it in a completely different way than will the bright, individual personality. The former abandons it with indifference, while the latter, even at night, is tormented by regrets. Of course, it is he who has left his proper calling.

The losses here are two-fold--individual and societal. Let's agree on the following point: only talented persons can educate a talented generation, create in a school the atmosphere of searching for fruitful solutions, and lead an entire, numerous detachment of teachers. There are thousands and thousands of such educators in our country. We must do everything to bring about a situation whereby they can work well in the teaching field.

Well-Trained Teachers Needed

Moscow IZVESTIYA in Russian 9 Oct 83 p 3

[Article by Professor A. Boborykin, rector of Leningrad Pedagogical Institute imeni Herzen: "What Kind of a Schoolteacher Is Needed Now?"]

[Text] We will not be revealing anything new when we say that success in educating and rearing the rising generation is directly dependent on the qualifications and professional level of the schoolteacher. The question of pedagogical personnel remains the question among questions within the extremely complex and multi-faceted system of improving the rearing and education of the youth. During the last few years an increasing turnover of teaching personnel has manifested itself more and more. What are the reasons for this? There are many of them. In schools where the class-rooms are overcrowded the teacher expends much more energy and time daily than when the class-room is filled to its normal level. He is practically deprived of the opportunity to conduct planned, individual classes and, as a result, is dissatisfied with the results of his own work. A negative influence is exerted by the practice of evaluating an educator's work by the pass rate of his pupils rather than by his attitude to the task.

Unstable programs also greatly hamper the cause. Here now it has already been about 15 years that the Academy of Pedagogical Sciences, the ministries, and departments have been discussing, probably the one-hundredth variant of curricula and programs, while the result of these discussions has not amounted to much.

Indeed. At various times the school programs have included such subjects as logic, psychology, aesthetics. And not of them were retained in the schools because, although the subjects were introduced, there were no teachers capable

of conducting them. In connection with this, we must also say something about elective courses. We consider that electives, insofar as they are constructed on the free choice and interest of the pupil, could become a good form of vocational guidance; by means of the electives the inclinations and interests of the pupils in certain subjects would be better revealed. However, the elective as a mass, universal phenomenon has not found a place for itself in the school. This has occurred because there are not enough specialists. There is now a proposal to introduce a new school subject: "The Ethics and Psychology of Family Life." And I am horrified at the thought that the conduct of classes in the mass school could be entrusted to untrained teachers.

There is a prevalent opinion that the greatest lacuna of pedagogical institutes lies in their poor training of teachers with regard to psychology, pedagogics, and methodology. And it is precisely for this reason that the teachers supposedly do not know how to engage in upbringing work. But matters are really quite different.

Life has convinced us that a teacher performs his upbringing work not so much during the collection of scrap metal as in the lesson, by communicating his knowledge. When he is encumbered with work which is not appropriate to him, he does not manage to read serious works in his own subject, prepare basically for his regularly scheduled classes, or satisfy the recommended prescriptions for conducting the lessons. Moreover, a teacher who has an insufficiently free mastery of his material involuntarily becomes dogmatic. Only enormous erudition and a high level of general culture will allow a teacher to become a person engaged in genuine upbringing. Only having received a fundamental theoretical training in his own subject will a teacher be capable of becoming a master, able to mold a human personality and impart to it a form which is more perfect than that which circumstances have cast it into.

But what kind of schoolteacher is required? A substantial part of the answer to this question consists of defining his field of specialization. Of course, the precipitous development of science requires that the training of a subject-oriented teacher proceed in accordance with a narrow profile. But in life he encounters the characteristic of a rural school with a small staff, where he is compelled to conduct classes not only in his own subject. In our view, this problem is really not too difficult to solve. As we assume, the student should acquire a broad, fundamental, general-theoretical training so that, in case of necessity, he can also teach a different subject. For example, a student in the Faculty of Russian Language and Literature should receive such training in history, aesthetics, and ethics so as to reinforce his specialized training. If it is required, however, he must also be able to teach history, aesthetics, and ethics. And the specialist in history should have such training in literary scholarship so that, in case of necessity, he would be able to teach literature as well. Or a student in the Faculty of Geography. He too should acquire a broad knowledge, such a fundamental theoretical base as would allow him to conduct classes in biology and chemistry.

Where are we to find the study time for all this? If we seriously examine the entire range of special disciplines, much that is obsolete and superfluous will be found therein. And with a poorly thought-out system of instructing the teacher in a broad profile there occurs a duplication of lecture courses,

practical classes, and practice teaching in school. How can one speak about depth of knowledge here?!

Over the last 15 years or so the tasks of the so-called improvement of teacher training have been solved basically by including new lecture courses and new types of practice in the curricula. This has led to an over-loading of the students and a reduction of the study time actually devoted to study of one's field of specialization. The curriculum has provided for 30--36 study hours a week, but, in actual fact, a student studies considerably more, since, in addition to his planned work, supplementary disciplines have been introduced. Moreover, the introduction of the new subjects, as a rule, takes place without taking into account the most important criterion: do they raise the theoretical level of the future teacher or not?

Let's address the facts. The curriculum designates one course as "Introduction to the Field of Specialization." But what is this? Nobody knows. Not even the subject of the discipline is specified. A direct waste of time occurs. And is there a need for such dreamed-up courses as "Economics of Public Education"? This subject does not provide the subject-oriented teacher with anything after he has studied the course on political economy. All the information on the specific economics of education can be found in the textbook.

The following is a very important task: to seriously improve the teaching of the socio-economic disciplines. These courses were compiled in accordance with the principle of not leaving anything out, and, therefore, they contain a great many unjustified repetitions. Moreover, we are not teaching the students to follow the periodical press, to conduct discussions, and the student often turns out to be helpless when he needs to defend his own convictions in a dispute.

If we are speaking about the most serious shortcoming in the training of a future teacher, then this is the passivity of instruction. The student silently listens to a lecturer, takes down notes, and on the exam reproduces what he has been told. And this is practically all that it amounts to. With rare exceptions, the student does not read monographic studies in his field of specialization. The profile of the lecture courses took on its shape when there were no textbooks for the majority of the subjects. Now the reading of courses which duplicate the textbooks is again a useless waste of time. It is important to teach people how to orient themselves within the precipitous flood of scientific information, to freely utilize the devices of comparison, systematization, and generalization. Less time needs to be accorded to auditorium hours than to independent study, reading, and writing essays, under well-organized controls and self-control.

In short, it is necessary to place the emphasis on active methods of instruction, increase the role of course work, specialized seminars, and specialized courses. And the lecture courses should encompass only the basic principles and serve as the foundation for the students' independent work with the literature. Instruction must be presented in such a way that the student can independently assimilate the new branches of science and see the main thing within the processes and phenomena.

Today the sphere of art and aesthetics is a battlefield for the youth--for its reason and character, for its spiritual world and also for its external appearance. Shortcomings in the emotional education of schoolchildren have been brought about not only by unimproved programs and textbooks but, for the most part, by the teacher's lack of training for educating the emotions.

Obviously, we need to teach the teacher in a completely different way if we wish him to be capable not only of transmitting a certain sum of knowledge but also to influence his pupils spiritually. Here too we need a special organization of the educational process.

Higher pedagogical education expects not organizational changes but rather changes in the very essence of training specialists, beginning with the school supervisory staffs. Pedagogical institutes train neither the directors nor the educational section chiefs. Perhaps it would be worthwhile to give some thought to creating in the country one or two educational institutions of the pedagogical academy type for training the supervisory personnel of public education? Persons admitted to these educational institutions should be those possessing a higher pedagogical education and who have worked for at least two or three years in a school. In such an educational institution a place must be found in its curricula for such extremely necessary subjects as the following: "Economics of Public Education," "Soviet Law," "School Hygiene," "School Administration," "Supervision of a Pedagogical Group, Komsomol, and Pioneer Organizations."

And, obviously, we must begin to make fundamental changes in the existing system of admittance to a pedagogical institute. In our view, the main thing here should be a joint interview on the major subject. And it ought to be conducted by a highly competent commission, consisting of the leading professors of the faculty under the mandatory chairmanship of the dean. The professors would conduct a conversation with each applicant as to how he has prepared himself for his future profession. The joint interview would also elucidate both the depth of interest in the chosen profession and the personal potential. It would also be more rational to conclude the pedagogical education with a defense of the diploma project in the major field of specialization.

We do not advocate an immediate, large-scale restructuring of the higher pedagogical school. We need to conduct all manner of preliminary experiments, provided by individual plans and programs, initially tested and developed, so to speak, under "laboratory" conditions. Serving as such laboratories could be two or three pedagogical institutes with the strongest professorial-teaching staffs, those which have experience in the field of methods research and a desire to experiment.

The directives of the June Plenum (1983) of the CPSU Central Committee, aimed at improving the selection and training of pedagogical personnel, taking present-day requirements into account, must be carried out.

2384

1812/22

EDUCATION

NEED FOR NEW APPROACH TO PROFESSIONAL TRAINING STRESSED

Adjust Numbers of Graduating Students

Moscow LITERATURNAYA GAZETA in Russian 7 Sep 83 p 13

[Interview with Yu. Kleymenov, chief of the Labor Resource Administration of USSR Goskomtrud [State Committee for Labor and Social Problems], by LITERATURNAYA GAZETA correspondent: "How Many Engineers Are Needed?"; date and place not specified]

[Text] How can we increase the motivation and yield of those persons who, after graduating from a VUZ or a tekhnikum, have entered upon the path of independent activity? Questions posed by the LITERATURNAYA GAZETA correspondent are answered below by the chief of the Labor Resource Administration of USSR Goskomtrud [State Committee for Labor and Social Problems], Yu. Kleymenov.

[Question] Yuriy Alekseyevich, some young people have written us to say that, after their placement, they are sometimes, against their will, given "nothing to do." This inflicts enormous material and moral damage. Both the national economy and the cause of educating specialists suffer. What possibilities do you see for solving this problem?

[Answer] First, let's dwell on the causes. One of them--the most important one--is the incorrect planning of the number of specialists.

Why do I say this with such assurance?

During the last two five-year plans the number of graduates from higher and secondary specialized educational institutions increased by a factor of 1.7 and has now reached 29 million people. Some 12 million of these have a higher education! The growth rate of the number of specialists has outstripped the growth rate of all workers in the national economy. In 1977 for every 1000 workers in industry there were 213 specialists with a higher or secondary specialized education; in 1980 this figure reached 237. But what kind of yield is there? During that same five-year plan we did not reach the planned level of labor productivity. As of today, almost 40 percent of those working in industry are engaged in manual labor. What does all this tell us? That the yield from engineers is still low. We prepare them for technical

progress and mechanization. But frequently they do not proceed along those lines.

[Question] Please explain what you have in mind.

[Answer] Well, let's take the following analogy. We feel sorry for the coachman, who is jolted about on the seat of his tarantas while driving it. We set forth a proposal--to mechanize this manual labor. We could replace the coachman with a robot. Would this be progress? There must be another solution.... We need to mechanize not just individual units within the structural components or merely certain operations, but rather comprehensively improve the entire technology.

[Question] But how can we reach the optimum number of specialists and increase their yield? Should we reduce the number of acceptances at VUZ's? But the requisitions from enterprises and scientific research institutes will still be coming in, as you said, "in accordance with the old technology." And certainly nobody is going to reduce the plan with regard to the volume of products to be turned out or the diversions into projects outside their fields of specialization (into vegetable centers, kolkhozes, and construction); and, therefore, the requisition demand for specialists will not change, or it will even increase. Unless, of course, a decrease in the number of personnel is encouraged by some other means, let's say, by an increase in wages.

[Answer] Yes, that's true. We were guided by this in organizing an experiment at several enterprises in Leningrad. A stable wage fund has been set up for them until the end of the five-year plan. But they are allowed to be flexible with their number of employees. Whatever number of persons they wish to keep in a department, sector, or design office--that's how many there will be. Whatever wages are freed up will go towards increasing the wages of those who remain.

[Question] And what about those who are forced to leave? In Leningrad they will, most likely, find jobs for themselves. Won't other enterprises and scientific research institutes become bloated?

[Answer] Moreover, the situation will become even more complicated if the experiment is extended to a nationwide scale. We are preparing for this. It is assumed that during the very first year some 5--6 percent of the specialists will be let go. We must give thought ahead of time to their job placement. What reserves do we have here? In certain VUZ's new faculties have begun to appear in specialized fields which have become necessary for the national economy. It would probably be more feasible not to accept 17-year-olds for the first-year course and, over a period of 2 or 3 years, to retrain those persons who are being let go as a result of the experiment. There will even be a gain in time. Further on in the process, when we know what kinds of specialists turn out to be in surplus, we can cut back the training along these lines at the VUZ's. Difficulties are now arising in the recruitment of foremen and shop chiefs. We could suggest that these vacancies be filled by the most worthy and skillful organizers from among the specialists who have been let go. And there is another possibility. At present more than 15 percent of the ITR [engineering and technical work] positions are held by

practical, self-taught workers. It would be more natural to have these jobs occupied by persons who have received a higher education.

[Question/ Readers are also informing us about the reverse process: a portion of the specialists are becoming workers.

[Answer/ That also disturbs us. We queried 1000 persons with a higher education at 57 enterprises. Why did they become workers? More than a third answered that they were not satisfied with their earnings. Just about this number pointed to the fact that there had been no chances for promotion in their positions.

We understand the need to increase the wages of specialists. This could proceed along various lines. One solution, which we have already discussed, is presented by the Leningrad experiment. A second route would be the direct increase of the wage rates for specialists. But in this case an increase in wages would necessarily have to be accompanied by a sharp increase in the yield and effectiveness in the end results of the work.

[Question/ Some of our readers from among the young specialists have expressed dissatisfaction not only with their work; they also complain about disorder in their everyday living conditions.

[Answer/ Unfortunately, our check-ups have confirmed such facts. At the same time, it must be said that young specialists often erroneously assume that, upon showing up at the place of work assigned to them, they must necessarily receive a separate apartment. Such a right is NOT WRITTEN DOWN ANYWHERE [in boldface]. A room may be offered in a shared apartment or in a dormitory.

In the decree entitled "On Intensifying Work with regard to Strengthening Socialist Labor Discipline" USSR Goskomtrud has been entrusted with the task of preparing proposals.

How should the young specialists be helped? The Komsomol has come up with a fine initiative. Recently I had a talk with the two chiefs of the staffs of the young-housing complexes from Kazan and Ufa respectively. There each department, sector (of an enterprise, institute, or institution) allocates one or even several persons, and by this means a consolidated detachment of builders is formed, comprised of specialists. Not everyone receives the right to join it. Production indicators, moral qualities, and public-mindedness are all taken into account. At the construction project they perform heavy work. But then, within a year or a year and a half a person moves into a new apartment. In my opinion, it is right that they should not rely on everything being ready-made but that they should participate to the extent of their capabilities in creating the necessary material goods.

[Question/ Yuriy Alekseyevich, what do you think of the idea of a person being free to choose the place of employment after graduating from a VUZ? Doesn't this depart from the principle of mandatory job allocation? Perhaps those graduates who have received excellent grades on their diploma projects, who have manifested a creative independence among the students, and who have acquired the habits of practical work--could at least these young

persons, after graduating from an institute, be permitted a free choice as to job placement in their own fields of specialization?

[Answer] That cannot be done. The job allocation of graduates must necessarily proceed within the plan procedure, taking into account the need for them in certain places, rather than on the basis of where they would like to go. Furthermore, the needs must be considered more precisely. You have correctly noted the following point: enterprises and scientific research institutes in their requisitions overstate their needs in order to secure themselves in case they have to send people to a kolkhoz or a vegetable center. Thereby they distort the picture of the national economy's true need for specialists. Even more turmoil is introduced into planning by graduates who reject the job allocation assigned for them.

It would seem that we have fully enough pedagogical VUZ's. But there are not enough teachers in the rural areas. At the same time even the nannies of city kindergartens and nurseries sometimes have degrees from a pedagogical institute. It turns out that these specialists studied somebody else's jobs for five years at an institute. They learned, but there was nothing doing with the others. And we need to bring about a situation whereby rural children have teachers with a higher education in all subjects.

Training specialists costs the society a great deal. And the society is right in requiring that young people work where it is needed.

[Question] However, it is not likely that anyone at all would assert that unjustified requisitions from localities or poor utilization of young specialists by scientific and planning institutes serves the goals of the society. Here it is not known where one finds something and where one loses it. Rather than utilize resources this way, it would be better to provide free choice of place of employment.

[Answer] Of course, there are things to think about here.... In the decree these shortcomings were noted: graduates are not always utilized in accordance with the skills which they have acquired. We are preparing appropriate proposals. For this purpose let's also examine the experience of our friends. In certain socialist countries, for example, for not going to the jobs allocated to them, young specialists pay back part of the outlays spent on their instruction. Possibly we should give some thought to this likewise. And, as regards those managers who have given shelter to such young persons, let them pay out of their own pockets--they will not be so indulgent.

[Question] It would be justifiable, however, to also fine in a similar manner those who, because of indifference or incompetence, cannot provide the young people with genuinely creative, intellectual work. The readers of LITERATURNAYA GAZETA in their letters propose that the administration should bear the following responsibility: they requisitioned the specialists--let them render an account of what they are doing and how they are doing it at their organization. Taking into account how expensive an education is for the society, several readers go even further; they consider that in this field it is necessary to establish cost-accounting relations. For each young specialist "summoned" let the enterprise pay specific amounts to be deducted from its own

revenues. Then it would be unprofitable to take on surplus personnel and utilize them poorly.

[Answer] I would say that this is already the beginning of another discussion: not only about requisitions for specialists but about the economics of education in general, the economics of the non-production sphere--these questions are interwoven in the closest possible manner in the national economy.

Up-to-Date Specialists Needed

Moscow SVETSKAYA ROSSIYA in Russian 23 Sep 83 p 1

[Article by I. Obratsov, academician, RSFSR Minister of Higher and Secondary Specialized Education: "A New Type of Specialist"]

[Text] To create the conditions for the multi-faceted development of the individual personality and the training of creative personnel for the national economy in various spheres of public activity--this was the task, as is well known, which was assigned to the higher educational institutions by the 26th CPSU Congress. This general thrust was further developed at the June Plenum of the CPSU Central Committee. In speaking there, Yuriy Vladimirovich Andropov noted that we have an enormous amount of work ahead of us with regard to creating machinery, mechanisms, and technologies for the present as well as for the future. We must carry out the automation of production, ensure the broadest possible use of computers and robots, and introduce flexible technology, which will permit us to rapidly and effectively restructure production to manufacture new items.

Even production is already today beginning to require a new type of specialist, those whose principal quality is a rapid reaction to constantly changing problems. Today, in fact, thanks to the research of scientists, we have quite a complete portrait of the specialist required for the needs of tomorrow's production. For example, he should be able to freely utilize automated systems of the scientific study and control of engineering processes, systems for automated planning, and data banks, to pose and solve the problems of searching out new physical principles of operation and technical solutions for products on a patentable level, and to be fully capable of mathematical and economic modeling. Enumeration of these professional qualities compels us to change the former concept of a model specialist. In our opinion, the new type of engineer is an engineer-designer-technologist with a broad background, capable of mastering the complete cycle of creating a new product: from developing the design to the technology of its manufacture. But for this purpose he should, on the one hand, possess fundamental skills and a broad education, and, on the other hand, he must have a high professional level and a mastery of the skills required for working in a specific position.

Training the new type of specialists is unthinkable without the active use of the most up-to-date scientific and production-engineering equipment, computers, data banks of scientific information, as well as automated systems of instruction, research, and planning.

And the entire tenor of VUZ life, the best traditions of scientific schools,

student and production groups should facilitate the formation of an active, vital point of view and the personality itself of the future specialist. Only having created such conditions, will the VUZ's be able to train specialists who are able to think creatively and who possess the following contemporary qualities: a high cultural standard, awareness and ideological convictions, professional competence and mobility, independence and an aspiration to acquire new skills, a spirit of enterprise and the ability to work in a group. In order to imbue the graduates with these qualities, we must abandon the mass-assembly-line method of training them and convert it to an individualized method, within which the determining factor is the educational influence of the instructor--his erudition, charisma, high general and professional level of culture, as well as wholehearted service to the cause. Despite the introduction of the most improved, automated systems, the lecturer has been and will remain the central figure of the VUZ.

Above all, in revising the curricula and programs, we are proceeding from the necessity of curtailing the mandatory auditorium-type classes and granting the student more time for independent work under the monitoring supervision of the instructor, bearing in mind the fact that knowledge gained independently, by means of one's own work, is the most persistent and long-lasting. The experience of the Leningrad, Novosibirsk, Rostov, and Tomsk Universities, as well as that of a number of institutes, has shown that a course aimed at independent, creative work by the students is becoming the basis for training modern-day specialists and is already at present bringing about fine results.

Within the framework of the targeted, comprehensive programs creating automated systems of scientific research and automated planning systems, in which 90 VUZ's under our ministry are taking part, the most progressive teaching methods have been formulated and are already being used today. They have shown a high degree of effectiveness, and this is to be explained by the following circumstances. In the first place, modern-day computer equipment is actively being introduced into the educational process. Thus, Novosibirsk University, in conjunction with the scientific institutions of the Siberian Division of the USSR Academy of Sciences, has obtained reliable results by introducing into the educational process classes using terminals interfacing with data banks in studying such disciplines as physics, chemistry, economics, and certain others. In the second place, at a number of educational institutions educational systems of automated planning and research-type designing are being put into operation, and data banks are being created for them. Groups successfully operating along these lines include the following: the Ivanovo Electric-Power Engineering, Bryansk Technological, Kazan Aviation, All-Union Correspondence Machine-Building, Moscow Machine-Tool, and Leningrad Electrical Engineering Institutes.

Discussion of the prospects for developing creative engineering and technical work, based on automated planning systems, the use of data banks in the educational process and scientific research, as well as the training of the new type of specialists, will be the focus, in particular, of the Third All-Union Conference, which will be held a few days from now in Ivanovo. There results will be presented on the scientific research dealing with the most diverse aspects of the of the scientific-educational process. And we must make the experience accumulated in this field by the leading VUZ's accessible to all the educational institutions of the republic.

Naturally, the organization of an up-to-date educational process and its conversion to a new technology require considerable material outlays and a lengthy period of time. Therefore, we intend to solve these problems by combining the resources which the higher educational institutions now have at their disposal, by concentrating and specializing educational and scientific work, by bringing it closer to the needs of the specific sectors, and by creating a system of inter-VUZ centers for the collective use of custom-built and expensive equipment.

Russia's educational institutions have carried out a number of measures directed at integrating the efforts of the higher schools, academic and sectorial scientific research institutes, production associations and enterprises. These problems have been discussed on more than one occasion in the ministry's collegium and at conferences held in conjunction with the USSR Academy of Sciences and its Siberian Division; they have been reflected in agreements concluded by the ministry and VUZ's with various sectors of the national economy.

One of the initiators of introducing the targeted training of specialists for the sectorial ministries, based on direct, long-term ties with industry, was the Taganrog Radio Engineering Institute. As of today, it has concluded 27 direct agreements with leading enterprises, in accordance with which it conducts the targeted training of engineers for these sectors. Based on the agreements, the conduct of production practices are organized, planned scientific projects and diploma projects are completed, and the job allocation of graduates is carried out.

By being drawn into the production and research processes, sharing them in common with workers, specialists, and scientists, and, finally, feeling for a long period of time the influence of the production group, the students acquire that experience in life which they had been lacking, the opportunity to follow the example of their elders, who have such a favorable influence on forming the personality of a future specialist, his lofty civic qualities and ideological-political convictions.

I will dwell particularly on the training of personnel without a break from production. The VUZ's have already done quite a bit to improve this old, traditional form of training; to this day, nevertheless, the optimum conditions for developing it have not been discovered. The organization of the educational process and the teaching methods are frequently copied from models of educational work at full-time faculties, models which are far from the best ones, and the introduction of new instructional methods has lagged behind. This is intolerable.

New teaching methods, technological and business games, analysis of situational models, and automated teaching systems must also be introduced in the non-break form of instruction. Otherwise, the following paradoxical situation arises: on the production line the students have to do with advanced technology, up-to-date structural components, with production control with the aid of computers, while we are teaching them in accordance with outmoded technology.

While improving various aspects of the work of higher educational institutions, we are not forgetting that this is a complex problem in which each of its components is substantial. In some VUZ's they are conducting a great deal of work, for example, on organizational improvement of the educational process, but they leave the methodological support behind at its former level, and, as a result, they don't obtain the desired results. The problem of raising the quality of training specialists must be solved in a comprehensive manner, improving with equal attention all units of the scientific-educational process.

Indicative here is the operational experience of the Kazan Chemical-Engineering Institute, which has specified the requirements for work quality of all sub-divisions, ranging from the planned work on forming the student body to contacts with the VUZ graduates. And, finally, science schools have been formed and are successfully operating at this institute; based on an integration of educational and scientific processes, they are providing a high degree of skills to their students.

The formation of a new concept of personnel training, the intensification of the scientific-educational process, and its conversion to a course of individual training--all this does not constitute a simple matter. There are no ready-made prescriptions here. Therefore, each grain of experience merits the most attentive study and evaluation. And only after a very careful selection of the most effective, reliable forms and methods of instruction will we be able to recommend them for widespread introduction in order to bring the backward VUZ's up to the level of the advanced ones. Such an approach, I am convinced, would also meet the requirements of the June Plenum of the CPSU Central Committee.

Certain circumstances, unfortunately, are complicating work along these lines. It is being hampered by the lack of improvement in planning the scientific work of the students as the most important constituent element in training modern-day specialists. The new curricula, as approved by the USSR Ministry of Higher and Secondary Specialized Education, provide a meagre number of hours for this work. If we really want to ensure the priority to the scientific, creative work of the students, this shortcoming must be eliminated as rapidly as possible.

Introduction of progressive methods and means in the educational process today is also being held back by the existing normative base for the labor of pedagogical workers. The actual labor outlays for developing and introducing active instructional methods exceed the established norms. In our view, it is necessary to re-examine the calculated coefficients in determining the teaching staffs, as well as the correlations which have taken shape among the educational, educational-methods, and scientific loads of the teachers.

The formation of a new instructional technology constitutes a serious and profound process, brought about by the scientific and technical revolution and the new social requirements of the society. The specialist of tomorrow will be oriented, to a greater extent than today, toward initiative and a socialist enterprising spirit; he will be creatively seeking out ways leading to the best end result for the national economy with the least outlays. We see our principal task in the training of such specialists.

2384

ISSO: 1828/26

EDUCATION

LANGUAGE, CULTURAL DIFFERENCES COMPLICATE TEACHING TASKS IN FAR NORTH

Moscow UCHITEL'SKAYA GAZETA in Russian 29 Oct 83 p 3

[Article by I. Tret'yakova: "The Northerners Have a Saying..."]

[Text] The RSFSR Ministry of Education held a conference and seminar devoted to improving teaching tasks in schools of the Far North. Taking part in the seminar were teachers, scholars, and workers from the public education departments.

Candidate of Pedagogical Sciences L. I. Filatova, chief of the Educational Work Administration, RSFSR Ministry of Education, and Doctor of Pedagogical Sciences G. N. Nikol'skaya, chief of the Northern Sector, Scientific Research Institute for National Schools, RSFSR Ministry of Education, delivered reports at the seminar.

Even in the largest Nenets family silence always reigns: there is neither noise, nor shouting, nor fretful whining. It's not for nothing that the Nenets have a saying: "Tarosi nyon yar" (Why cry over nothing?). In plain language--one of the secrets of public education is, that crying will get you nowhere. A calm, kind-hearted approach to the little ones makes them well-adjusted, friendly and obedient.

Children inherit honesty from their parents. If a hunter finds someone else's trap with a fox in it, he takes the animal, dresses it out, looks for the owner and hands it over. Often clothing is left behind unwatched in the summer or winter migratory camps, somewhere in plain sight, so it would be easy to find...

A teacher must know the mores and customs of the native population. Otherwise it is difficult to understand the little ones who have grown up in the tundra, and one cannot inspire trust in them. A teacher who relies on the best family traditions, who considers the national and psychological peculiarities, the character and temperament of the pupils, will enjoy great success. The authority of the adult derives from respect for the child, from tact and spiritual intimacy with him.

The sons and daughters of the reindeer herders, hunters and fishermen, whose social milieu for the first six years of life is basically limited to the family, study at boarding schools or at schools which have boarding facilities. Therefore there is special concern that there should be a warm and trusting atmosphere in the children's collective, which would help the children to discover and display their abilities. And here two important problems arise.

It's not that easy to make contact with a child, nor for the children with one another when there are language obstacles in the way.

The child comes to school. At home he's used to hearing only his native tongue. The teacher smiles at him, gestures, talks and talks, but what--he doesn't understand. Even if she tries to use a few phrases the child understands in her voluminous explanation, it is not without difficulty. Unfortunately there are still such instances. Ordinarily a teacher works with the six-year-olds in a special preparatory class in their native language, and teaches them Russian orally. But there are still too few specialists who have completely mastered both languages, the native tongue and Russian.

As a rule, the national makeup is varied in the schools of the North. Subjects are taught in Russian. But one must not permit the children to lose the habit of their own language (the degree to which it is developed notwithstanding). You see, you will not learn Russian without the support of the native tongue. Scholars and teachers are making the effort to understand one another, and are gradually overcoming the language barriers. This process occasionally drags on too much, which has an effect on both education and training. And this is why the problem of the quality of instruction in the Russian and the native languages in the schools as well as in the pedagogical educational institutions of the Far North--it was stressed at the seminar--is always one of the basic problems.

The other problem: The children are under the constant influence of the teachers. Naturally, in such circumstances it is easier to instill the knowledge of domestic culture; it is easier to educate; and one can develop more fully. But a young person, no matter how much one is concerned for him, does poorly without the tender expression of his mother, the strict but kind words of his father, and contacts with brothers and sisters.

And the parents? Do their feelings of responsibility for their child not become dulled? Do they not shift all concern for them to the shoulders of the teachers?

Only in the community of the school, the family and society can one educate a person as a spiritually-rich, work-loving, useful member of society--and this situation was stressed both in the reports and in the speeches.

In actuality, it is very difficult to maintain contact with the parents in the conditions of the Far North, much less make full-time assistants of them. However, it is possible. Here's what V.L. L'vov, director of the Baykitskiy Secondary School in the Evenki Autonomous Okrug, Krasnoyarsk Krai says:

The school is the only one in the area. Children from seven settlements situated at distances from 120 to 500 km away study here. Living in the boarding school are the children of those who work in the reindeer-herding brigades and on the fur farms. And the school attempts to not permit estrangement which threatens their close relatives. All opportunities are used to make sure that the children and their parents know one another better. Letters arrive regularly at all rural Soviets, in which news is sent of each child: how he's doing at school, and how he's taking part in social life. As soon as the ice melts on the Podkamennaya Tunguska, the chief of the rayon department, officials from the party raykom and ispolkom travel around the reindeer herding brigades and fur farms, to meet with the parents. During the summer a student production team operates in every settlement, and parents are invited as leaders.

Contact with the family means contact with the working traditions of their people. The Northerners have a saying: "A poor worker cannot be a good person". A seven or eight-year-old is considered to be already grown. The youth is given a sledge, to which one can harness two or three reindeer; a gun, traps, an axe, a lasso. He is given the right to make his own decisions, and he is put in charge of his younger brother or sister. He sees how his mother sews for the little one. And he knows that before he appears anew he has to drive the reindeer and dress the hides. In a word, they become accustomed to work in the home from childhood, to be thrifty and independent.

But in the boarding school they live completely at the expense of the state, and they don't know what their training and education costs. Hence they cause the teachers concern, for their occasionally careless attitude toward public property, toward clothes, furniture, textbooks--with the ensuing results: a dependent, consumer's attitude toward life.

All school collectives strive for economy and thrift, but it happens that slogans prevail over concrete matters. Propagandizing knowledge of economics, formation of economic thinking, is one of the most important parts of a high-minded, moral upbringing. And of course inculcating intolerance for idleness is inseparable from learning the work ethic.

Other questions were raised as well in the speeches. The forms and methods chosen for influencing the pupils are not always the ones which give the maximum effect. At times the teachers proceed not from the end result of education, but from the standpoint of--which measures are taken with the children and which are not. In the conditions of the boarding school, the role of the Pioneer and Komsomol organizations is especially important in developing the pupils' social activeness and in forming organizational skills. Thus the experience of progressive collectives and the spread of this experience is all the more valuable.

Labor. There was a lot of talk about this. Experience confirms that in the national schools, the only effective organization of labor education is that which takes local traditions into consideration. For example, in Kamchatka Oblast new types of labor training were introduced in connection with the

needs of the national economy: on the fundamentals of reindeer herding, and fur farming, on making fur clothing and headgear, and on the technology of producing fish products. In the Taymir Autonomous Okrug clubs have been established for "Young Hunters" and "Young Fishermen", where school children become familiar with the trades of their fathers. The kids from Dulinka work during the summer with the teams of reindeer herdsman and fishermen, on the fur farms, and make their national clothing in the workshops.

Every year forestry students from the Us'k-Oroch Eight-year School in Khatarovsk Kray plant 80 to 150 hectares of fir trees. Gathering berries, mushrooms and medicinal herbs teaches them to use the gifts of nature wisely.

Of course there are many methods for familiarizing the children with the traditional sectors of the economy. The most important thing is that the kids become aware of the social significance of their labor. This teaches them to be guided in their choice of professions not only by their own desires but also the needs of society and the state. Eloquent testimony to this is the fact that the majority of graduates of the schools have followed in their parents' footsteps, and are working in all the sectors of the national economy and culture of their kray.

The specific task of the schools of the Far North is to train the younger generation to wisely utilize and enrich their natural resources, and to develop the traditional and the new directions of the economy on the basis of advanced science and technology. And for this one must bring a person up as a communist--high-minded, educated, work-loving; ready to apply his knowledge and strength for the good of his people, for the good of the Motherland.

9026

USSR: 1828/38

EDUCATION

AN ENGINEER MUST CREATE

Moscow IZVESTIYA in Russian 11 Nov 83 pp 1-2

[Article by B. Koltovoy and K. Smirnov under rubric "IZVESTIYA Roundtable: 'Engineers Must Create'"]

[Text] The speech by Comrade Yu. V. Andropov at the June 1983 Plenum of the CPSU Central Congress contains words that are key ones for discussion at our round table today: "A factor that is currently taking on decisive importance is a single scientific-technical policy. We have waiting for us a tremendous amount of work in the creation of machines, machinery, and technological schemes both for today and for tomorrow." The persons who must be the conductors of that single policy, of those principles that are reflected in the recent decree of the party's Central Committee and the Soviet government concerning the acceleration of our country's scientific-technical progress are the designers, technologists, and workers at the experimental-design and scientific-research branch institutes and the experimental production entities. In all these subdivisions the chief figure is the skilled engineer.

Today's round table discussion is a continuation of the preceding one (see IZVESTIYA, No 130/131, 1983), at which the participants threw light upon the problems of training specialists at higher engineering educational institutions.

Today the questions that will be discussed deal with the place and role of the engineer in present-day production.

The participants in the round table discussion were: Ye. Antosenko, director of the NII [Scientific-Research Institute] of Labor; V. Kiryukhin, chief designer, Kaluga Turbine Plant; A. Krasnov, acting chief of the Technical Department of the Soyuzatomenergostroy All-Union Construction and Installation Association; N. Lidorenko, general director of the Kvant NPO [Scientific-Production Association], corresponding member of the USSR Academy of Sciences; V. Pavlov, sector chief, Scientific Youth Department, Komsomol

Central Committee; G. Sukhanov, deputy chief engineer of the Gidroyekt Institute.

But when to think?

N. Antukhin: It's a good thing that the newspaper has begun a discussion about the effectiveness of engineer labor. Several years ago we used with pride that we were training more engineers than the United States was. But it is obvious that it is not only a matter of the quantity of engineers, but also of what their quality is and how they are being used.

V. Kiryukhin: Engineers are used correctly wherever people take a serious attitude toward the fulfillment of state assignments for increasing labor productivity, to the renovation of output, and to the introduction of new technological schemes. Wherever the managers want to move the production ahead, a creative engineer is also needed. He is absolutely indispensable. But wherever the people only "run through" the plan, an innovative engineer will not find anything real to do. Unfortunately, we still have enterprises like that.

At our plant there are several designer subdivisions, and also a large number of engineers in production. And, naturally, we think constantly about the problem of the efficient use of the engineer potential. In involving the engineers in the improvement of production, the planned principle is extremely important.

In order to define more precisely the place of each specialist, we annually prepare a plan for increasing the effectiveness of the production and quality of labor. This thick volume that I have in my hand lists in detail the names of the specific executors. It tells who must do what, and when, and the expected benefit. This kind of plan enables us to give the engineers a sufficiently full work load, not with hurry-up, immediate-result jobs, but with serious assignments the fulfillment of which has a tangible effect upon the general indicators for the plant.

When the development and introduction of a new machine into production are beginning and it is necessary to decide complicated technical problems, we create creative cooperation brigades from among the designers, technologists, and other specialists. There were approximately 60 such brigades in operation last year. More than 400 engineers were working in them. They produced for the plant in 1952 an economic benefit of approximately 700,000 rubles.

Yes, our country still has a large number of production collectives where, as the people at the Kaluga Turbine Plant realize, the people understand what an important force the engineer in production has, when he is correctly used. However, the editor's mail is replete with letters in which the writers state that even when the managers of the plants or construction sites strive to use the engineer personnel intelligently, there exist a large number of objective factors that counteract this.

A. Krasnov: Unfortunately, the engineers who are working directly at the construction site expend more than half their work time to resolve questions that

are purely of a supply or office nature. But it is difficult to propose any specific thing that would fundamentally change the situation.

V. Kiryukhin: I have already mentioned that at our plant a lot is being done to make efficient use of the engineers. Nevertheless, we have not been successful in creating the conditions to assure that the specialist will be occupied for the entire work day in actually engineer matters. A large amount of his time is eroded by all kinds of office matters. This is really the scourge of production. The endless changes in GOST [State All-Union Standards] without any special reasons for doing so, the cumbersome system of preparing designer documentation, the preparation of a large number of papers -- all these things lie as a tremendous additional load on the engineers.

They constantly have to become supernumerary supply specialists. And there is not yet the proper trust in the specialist. Many documents and drawings could be released with the signature of only the designer. But no, it is necessary to collect a whole bouquet of official stamps. This takes a tremendous amount of time. But if, when a new machine is being handed over, a particular unpleasantness is detected, the one who is held responsible is the designer, and the people who wrote the other signatures just step aside.

A. Krasnov: And there is another sore point -- the involving of engineers in all kinds of operations on sponsored kolkhozes, at vegetable bases, etc. And they perform work there as unskilled laborers, that is, with completely no regard for their area of specialization. Individual scientific-research institutes and associations are already resolving the problem of sponsorship aid to the rural areas in a different way. They design, manufacture at experimental enterprises, and transfer to the kolkhozes and sovkhozes the machines that replace certain types of work which previously had to be performed manually. This is certainly the most efficient means of using engineer personnel.

The involvement of specialists and students in autumn agricultural operations has become a constant phenomenon over a period of several years. And if, in certain places, it is still difficult to get by without the physical labor that is performed by engineers "for potatoes," then would it not be at least worthwhile to organize that labor more efficiently, on the basis of contracts between the plant, institution of higher learning, or NII, on the one hand, and the sovkhoz or kolkhoz, on the other, previously planning that labor and preparing for it in plenty of time?

The Right to Responsibility

How does the fate of the engineer in production develop? Much here depends on how the enterprise greets the young specialist.

V. Pavlov: Every year our country's institutions of higher learning train 300,000 young specialists. And every year approximately 10 percent of them fail to get to the place where they have been assigned. Another 5 percent leave the enterprises before completing a year's work. What are the reasons for this? The first is: dissatisfaction with the work. Second: the failure

of the plant, factory, or construction site to observe the pledges to the young engineer that have been defined by law.

Ye. Antosenkov: The transition from engineers to workers has been an increasing process. This has been attested to by the results of our studies in many parts of the country.

But why are the engineers leaving to take jobs as workers? The search for the answer to that question has shown that it is not just a matter of wages. Very frequently an engineer who has been graduated from an institution of higher learning is not ready to head a work collective. He does not have the necessary skills that are required by an organizer of production. There is another circumstance: the job of engineer involves responsibility for people and for the equipment. And not every young engineer is ready to assume that responsibility. It is, of course, more tranquil to work at a machine tool. Consequently, the roots of this phenomenon also lie in the shortcomings of training the future specialists and the indoctrinational work with him.

V. Pavlov: It is necessary to create the conditions that open up before the young specialists the opportunities for their creativity. We are currently analyzing the work performed by the combined collectives of creative youth, and we participate in their development. What are those collectives? They are temporary ones which include young scientists, specialists, technicians, workers, and students. They are created for the purpose of resolving specific scientific-technical tasks. For example, at a certain railroad-car repair plant seven people were united into an experimental cost-accounting group for the development and introduction of technical innovations. The engineers, in cooperation with the workers, resolve specific scientific-technical questions pertaining to their enterprise, test the ideas in a small experimental sector, and bring the innovations to the point of introduction. When the effectiveness of the work performed by the brigade was determined, it turned out that the benefit produced by each of its member is 10-15 times more effective than that produced by the "average" scientific-technical worker at that enterprise.

The statute that governs the assignment of young specialists needs to be made more specific. It would be a good thing if it contained clear-cut indications of the measures of an administrative and legal nature that can be applied for refusal to accept a young specialist, or for failing to create the necessary working and everyday conditions for him.

The other side of the coin is the responsibility borne by the young specialists themselves. At the June 1983 Plenum of the CPSU Central Committee the statement was made that the party is disturbed by the tardy civic development and political naiveté of young people, their status as dependents, their lack of desire to work where society needs them today. And this also pertains to a certain number of young specialists.

Going Up the Ladder of Skill

As a result of the sharp complication of technology and technological schemes at the present time, and the creation and introduction of automated production

entities and systems for automated designing and technological preparation, there has been a sharp increase in the demand for engineers with a higher level of proficiency. However, what is usually the case is that the enterprise managers, instead of creating the conditions for the creative growth of those specialists, replace them with a larger number of engineers at a lower level of proficiency. Because it is in general more advantageous for the enterprise manager to have an excess number of engineers, whom he can use to "cover" the shortage of technicians or even ordinary workers, and whom he can shift from place to place freely when, for example, it is necessary to send people to engage in agricultural operations, etc. But the number of engineers who are graduated is determined by the needs of the national economy, as communicated to the higher schools, and those needs, in the final analysis, are the ones that are stated in the requests of the enterprises for graduates. Would it not be worthwhile to think a little bit about improving the system of determining the number of engineers needed by the country?

Ye. Antosenko: We have been talking a lot about how the enterprise managers have been engaged with insufficient assiduousness in the efficient use of resources, understanding by them a saving of energy, raw materials, and equipment. But the chief resource is personnel, and primarily the engineer personnel, if one is speaking about plants. And yet there are not yet any precise norms that specify the needs of the enterprises for personnel with a higher level of proficiency. In this regard USSR Gosplan, Goskomtrud, and the ministries are still in debt to industry. And so the plants recruit the engineers according to the principle: the more, the better. And they are not being used efficiently.

N. Lidorenko: New tendencies have been discerned in life. On the one hand, technology -- both in production and in operation -- is becoming more complicated. There is a need for an increasingly high level of engineering proficiency. And, on the other hand, the prestige attached to the engineering professions is falling, to the advantage of the humanities and the commercial professions. I head a department at a *fiztekhn* [physics technicum]. At one time, at that institute, there used to be a competition of 12 people for each place. Now the average is 4.5. The competition has also dropped at MAI [Moscow Institute of Architecture] and at MVGU [Moscow Higher Technical School]. But it has risen in the institutions of higher learning that specialize in the humanities, economics, and trade.

A. Krasnov: The higher schools are sluggish when they should reorganize rapidly and train specialists for the latest trends in the national economy. Nuclear power engineering is developing rapidly in our country. From five-year plan to five-year plan the activation of capacities at AES [nuclear power stations] has been increasing. But, practically speaking, it is only this year that four institutions of higher learning have begun to train construction engineers for nuclear power stations (prior to this time, MISI [Moscow Construction Engineering Institute] had only a department in the school of civil industrial construction). If an important economic program is being determined on a nation-wide scale (the Food Program, the Energy Program, for example), it is necessary to plan immediately to train the personnel to support it.

Although a special IZVESTIYA round table discussion was already devoted to the training of the engineer in the higher school, all those who spoke, naturally, touched upon that question, because the formation not only of engineering knowledge, but also of the engineer's civic responsibility, begins in the institution of higher learning.

V. Kiryukhin: Why, then, don't they introduce two (or more) initial gradations in the payment of labor performed by the young specialist? I would put the "outstanding specialist" and the "average specialist" under different starting conditions in production.

N. Lidorenko: But those gradations are also necessary when evaluating an engineer who is already working. We need rungs. We need a ladder for his professional growth. And what, finally, is needed is the subdivision of his labor into two functions: the execution of his immediate duties, and his creative contribution to the job at hand, the degree of return on his work. We have undertaken an attempt like that. At our association every coworker has a labor record card that reflects his contribution to the resolution of our chief problems, the return on his creative work.

G. Sukhanov: Among young engineers, work at a construction site is for some reason considered to be more prestigious than working at a construction-design institute. In this regard the occupations of construction designers and researchers are rendered a service that is well-intentioned, but that has a reverse effect -- the service rendered by a large number of works of literature, motion pictures, and stage and television productions. In those works, whenever a conflict arises between the construction workers and the construction designers, in the overwhelming majority of cases the construction workers are depicted as being more advanced, more progressive, and the construction designers are depicted as being conservative, and interested only in defending the honor of their profession.

The participants in the discussion expressed the opinion: the decrease in the prestige afforded to the profession of engineer is largely determined by the fact that there has been a lessening of the attention paid to providing incentives for his labor, for his creativity. Naturally, the incentives should not be converted into a lure or a "special treat" to ingratiate oneself with the graduate of the institution of higher learning, as one ingratiates himself with a fastidious fiancée. But nevertheless it is obvious that the lack of definiteness, the haziness of the status of the engineer in production, and the haziness concerning his rights and duties, as well as the small number of steps in his "growth ladder," have an effect upon the return provided by his creative efforts. The "table of ranks," the remuneration for labor in the engineering professions, are in obvious need of improvement and greater differentiation.

The participants in the round table discussion devoted special attention to the psychological incentives, and to the fact that, for example, in the broad spectrum of occupations that are especially propagandized in the press, on the radio, and on television, the engineer has been modestly shifted to the background.

Two round table discussions are not enough to exhaust, much less resolve, all the problems that are linked with increasing the effectiveness and the prestige of engineering labor. This is only the beginning of the discussion which will be continued on the pages of IZVESTIYA.

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27 JAN 1984